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$%^STN;HighlightOn= ***;HighlightOff=***  ;

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                 STN AnaVist, now available
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 NEWS  5  AUG 11 STN AnaVist workshops to be held in North America
 NEWS  6  AUG 30 CA/CAplus -Increased access to 19th century research documents
 NEWS  7  AUG 30 CASREACT - Enhanced with displayable reaction conditions
 NEWS  8  SEP 09 ACD predicted properties enhanced in REGISTRY/ZREGISTRY

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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FILE 'HOME' ENTERED AT 12:25:26 ON 13 SEP 2005

=> file reg
COST IN U.S. DOLLARS                              SINCE FILE     TOTAL
                                                       ENTRY   SESSION
FULL ESTIMATED COST                                     0.21      0.21

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DICTIONARY FILE UPDATES:   12 SEP 2005  HIGHEST RN 862971-50-4

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* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************

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http://www.cas.org/ONLINE/DBSS/registryss.html

=> s ni2o3/mac
L1             5 NI2O3/MAC

=> s ni2o3
L2            13 NI2O3

=> s ni2o5
L3             3 NI2O5

=> file caplus
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                     14.23      14.44

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FILE COVERS 1907 - 13 Sep 2005  VOL 143 ISS 12
FILE LAST UPDATED: 12 Sep 2005  (20050912/ED)

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  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l2 or l3
          1117 L2
             6 L3
L4        1121 L2 OR L3

=> s ((optical or laser or information)(5a)(med? or disk or disc)) and l4
        836557 OPTICAL
            19 OPTICALS
        836565 OPTICAL
                 (OPTICAL OR OPTICALS)
        499735 LASER
        155951 LASERS
        512643 LASER
                 (LASER OR LASERS)
        382981 INFORMATION
```

```
          2925 INFORMATIONS
        385328 INFORMATION
                 (INFORMATION OR INFORMATIONS)
       1811184 MED?
        115437 DISK
         57158 DISKS
        144938 DISK
                 (DISK OR DISKS)
         14806 DISC
          3251 DISCS
         17568 DISC
                 (DISC OR DISCS)
         43640 (OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC)
L5           1 ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
               AND L4

=> d all

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2005:1030  CAPLUS
DN   142:103254
ED   Entered STN:  31 Dec 2004
TI   Write-once   ***optical***   recording   ***medium***   comprising mixed
     nickel oxides
IN   Chang, Hung-Lu; Yen, Wen-Hsin; Chen, Jung-Po; Yen, Po-Fu; Jeng, Tzuan-Ren
PA   Industrial Technology Research Institute, Taiwan
SO   U.S. Pat. Appl. Publ., 3 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  G11B007-24
INCL 430270120; 430945000; 369288000; 428064800
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.            KIND    DATE        APPLICATION NO.        DATE
     ---------------       ----    --------    --------------------   --------
PI   US 2004265741          A1     20041230    US 2003-601833         20030624
PRAI US 2003-601833                20030624
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------    -----  ----------------------------------------------
 US 2004265741    ICM    G11B007-24
                  INCL   430270120; 430945000; 369288000; 428064800
 US 2004265741    NCL    430/270.120
AB   An   ***optical***   recording   ***medium***   includes: (a) a dielec.
     layer, (b) a recording layer, and (c) a reflective layer, which are
     stacked on a surface of a substrate in the described order or stacked on
     the surface in the order of: (b) the recording layer, (a) the dielec.
     layer, and (c) the reflective layer.  The recording layer contains a mixed
     nickel oxides which decomps. to release a gas and becomes transparent upon
     heating.  In comparison with silver oxide and iron nitride, a NiOx
     recording layer is more stable in air, and as a result, the write-once
       ***optical***   recording   ***medium***   is more reliable for an
     extended period of time both before and after recording.  Moreover, the
     NiOx recording layer will not only decomp. to release a gas but become
     transparent from its original black color upon exposure to recording laser
     light, and these enable reprodn. of signals in accordance with not only
     the CD std. but DVD and HD-DVD stds.  The NiOx mixed oxides is non-toxic
     and has a relatively lower decompn. temp.
ST     ***optical***   recording   ***medium***   ROM DVD   ***disk***   nickel
     oxide
IT     ***Optical***   ROM   ***disks***
        (write-once   ***optical***   recording   ***medium***   comprising
        mixed nickel oxides)
IT   1313-99-1, Nickel oxide, uses   ***1314-06-3***   , Nickel oxide (Ni2O3)
     7631-86-9, Silica, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (write-once   ***optical***   recording   ***medium***   comprising
        mixed nickel oxides)
```

```
=> s ((optical or laser or information)(5a)(med? or disk or disc)) and (nickel near2 (oxide or sub
MISSING OPERATOR 'NEAR2 (OXIDE'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s ((optical or laser or information)(5a)(med? or disk or disc)) and (nickel (3a)(oxide or subox
        836557 OPTICAL
            19 OPTICALS
        836565 OPTICAL
                 (OPTICAL OR OPTICALS)
        499735 LASER
        155951 LASERS
        512643 LASER
                 (LASER OR LASERS)
        382981 INFORMATION
          2925 INFORMATIONS
        385328 INFORMATION
                 (INFORMATION OR INFORMATIONS)
       1811184 MED?
        115437 DISK
         57158 DISKS
        144938 DISK
                 (DISK OR DISKS)
         14806 DISC
          3251 DISCS
         17568 DISC
                 (DISC OR DISCS)
         43640 (OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC)
        585012 NICKEL
           195 NICKELS
        585039 NICKEL
                 (NICKEL OR NICKELS)
       1588257 OXIDE
        331679 OXIDES
       1682981 OXIDE
                 (OXIDE OR OXIDES)
          2266 SUBOXIDE
           859 SUBOXIDES
          2843 SUBOXIDE
                 (SUBOXIDE OR SUBOXIDES)
         51376 NICKEL (3A)(OXIDE OR SUBOXIDE)
L6          72 ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
               AND (NICKEL (3A)(OXIDE OR SUBOXIDE))

=> s ((optical or laser or information)(5a)(med? or disk or disc)) and (nio?)
        836557 OPTICAL
            19 OPTICALS
        836565 OPTICAL
                 (OPTICAL OR OPTICALS)
        499735 LASER
        155951 LASERS
        512643 LASER
                 (LASER OR LASERS)
        382981 INFORMATION
          2925 INFORMATIONS
        385328 INFORMATION
                 (INFORMATION OR INFORMATIONS)
       1811184 MED?
        115437 DISK
         57158 DISKS
        144938 DISK
                 (DISK OR DISKS)
         14806 DISC
          3251 DISCS
         17568 DISC
                 (DISC OR DISCS)
         43640 (OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC)
        181214 NIO?
L7         457 ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
               AND (NIO?)

=> s l6 or l7
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L8         486 L6 OR L7

=> l8 and (oxidiz6 or gas or evolution or black or WORM or (write(5a)(once or only)))
6 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l8 and (black or dark or oxidiz6 or gas or evolution or black or WORM or (write(5a)(once or o
        241104 BLACK
          5686 BLACKS
        242233 BLACK
                 (BLACK OR BLACKS)
        156710 DARK
            15 DARKS
        156719 DARK
                 (DARK OR DARKS)
             0 OXIDIZ6
       1451051 GAS
        494167 GASES
       1627674 GAS
                 (GAS OR GASES)
        325558 EVOLUTION
          3234 EVOLUTIONS
        327625 EVOLUTION
                 (EVOLUTION OR EVOLUTIONS)
        241104 BLACK
          5686 BLACKS
        242233 BLACK
                 (BLACK OR BLACKS)
         11569 WORM
          7981 WORMS
         17213 WORM
                 (WORM OR WORMS)
          9293 WRITE
           816 WRITES
          9985 WRITE
                 (WRITE OR WRITES)
         95215 ONCE
             5 ONCES
         95220 ONCE
                 (ONCE OR ONCES)
       2061819 ONLY
           750 WRITE(5A)(ONCE OR ONLY)
L9          27 L8 AND (BLACK OR DARK OR OXIDIZ6 OR GAS OR EVOLUTION OR BLACK
               OR WORM OR (WRITE(5A)(ONCE OR ONLY)))

=> d all 1-27

L9   ANSWER 1 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2005:975687  CAPLUS
ED   Entered STN:  08 Sep 2005
TI     ***Optical***   ***information***   recording   ***medium***   and
     method of manufacturing the same
IN   Kariyada, Eiji
PA   NEC Corporation, Japan
SO   Eur. Pat. Appl., 28 pp.
     CODEN: EPXXDW
DT   Patent
LA   English
IC   ICM  G11B007-24
CC   74 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   EP 1571658           A2    20050907    EP 2005-4558           20050302
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,
             BA, HR, IS, YU
     US 2005196575        A1    20050908    US 2005-71725          20050303
PRAI JP 2004-59740        A     20040303
```

```
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 EP 1571658      ICM    G11B007-24
 US 2005196575   NCL    428/064.400
AB    An   ***optical***    ***information***   recording   ***medium***
      includes a Si-, Al- or AlSi- based oxide/nitride dielectric film (3)
      comprising as an auxiliary ingredient at least one from Ni, Ti, Cr, Co,
      Ta, Cu and C that shows a film forming rate higher than that of SiON film
      and hence is adapted to mass production.  The recording medium shows
      little change in the reflectivity after a long environment test.  A first
      dielectric layer (2) made of ZnS-SiO2, an oxide/nitride dielectric layer
      (3) made of silicon-  ***nickel***    ***oxide***  /nitride, a second
      dielectric layer (4) made of ZnS-SiO2, a first interface layer (5) made of
      GeN, a recording layer (6) made of Ge2Sb2Te5, a second interface layer (7)
      made of GeN, a third dielectric layer (8) made of ZnS-SiO2 and a
      reflection layer (9) are laid sequentially on a transparent substrate (1)
      in the above mentioned order.  The oxide/nitride dielectric layer (3) is
      formed by reactive sputtering in a mixed   ***gas***   atmosphere
      containing Ar   ***gas***   , O2   ***gas***   and N2   ***gas***   .  The
      refractive index of the oxide/nitride dielectric layer (3) is made lower
      than that of the first dielectric layer (2) that of the second dielectric
      layer (4) and the light absorption coefficient of the recording layer (6)
      is made lower in an amorphous state than in a crystalline state.

L9    ANSWER 2 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN    2005:508915  CAPLUS
DN    143:202835
ED    Entered STN:  15 Jun 2005
TI    High-deposition-rate dielectric thin film for phase change   ***optical***
        ***disks***
AU    Kariyada, Eiji; Ohkubo, Shuichi; Tanabe, Hideki; Ide, Tatsunori
CS    Media and Information Research Laboratories, NEC Corporation, 1753
      Shimonumabe, Nakahara-ku, Kawasaki, Kanagawa, 211-8666, Japan
SO    Japanese Journal of Applied Physics, Part 1: Regular Papers, Brief
      Communications & Review Papers (2005), 44(5B), 3634-3637
      CODEN: JAPNDE
PB    Japan Society of Applied Physics
DT    Journal
LA    English
CC    74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
      Reprographic Processes)
AB    To improve the productivity of high d. digital versatile disk-rewritable
      media (HD DVD-rewritable media), a silicon-nickel oxynitride (SiNiON) film
      that can be sputtered with a SiNi target in an atm. of mixed argon,
      oxygen, and nitrogen   ***gases***   has been developed.  The SiNiON film
      had a deposition rate almost the same as that of the ZnS-SiO2 film widely
      used in phase change recording media, and its refractive index was
      sufficiently low, i.e., 1.54.  Its structure was a mixed matrix of Si, Ni,
      O, and N, rather than a mixt. of SiO2 and Si3N4 clusters.  HD
      DVD-rewritable media using the SiNiON film showed almost the same
      excellent read/write characteristics as those of the media using the SiO2
      film.
ST    phase change   ***optical***    ***disk***   dielec film silicon nickel
      oxynitride
IT    Erasable   ***optical***    ***disks***
         (phase-change, DVD-rewritable; properties and high-rate deposition of
         dielec. thin film of silicon-nickel oxynitride for phase change
           ***optical***    ***disks***  )
IT    Dielectric films
      Refractive index
         (properties and high-rate deposition of dielec. thin film of
         silicon-nickel oxynitride for phase change   ***optical***
           ***disks***  )
IT    Magnetron sputtering
         (radio-frequency; properties of dielec. thin film of silicon-nickel
         oxynitride for phase change   ***optical***    ***disks***   as
         function of sputtering   ***gas***   pressure and reactant
           ***gases***   ratio)
IT    131500-39-5,   ***Nickel***   nitride   ***oxide***   silicide
      RL: DEV (Device component use); PEP (Physical, engineering or chemical
      process); PRP (Properties); PYP (Physical process); PROC (Process); USES
```

(Uses)
(properties and high-rate deposition of dielec. thin film of silicon-nickel oxynitride for phase change ***optical*** ***disks*** )
IT 1314-98-3, Zinc sulfide, properties 7631-86-9, Silica, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(properties and high-rate deposition of dielec. thin film of silicon-nickel oxynitride for phase change ***optical*** ***disks*** )
IT 12035-57-3, Nickel silicide (NiSi)
RL: RCT (Reactant); RACT (Reactant or reagent)
(properties and high-rate deposition of dielec. thin film of silicon-nickel oxynitride for phase change ***optical*** ***disks*** )
IT 7440-37-1, Argon, properties
RL: PRP (Properties)
(properties of dielec. thin film of silicon-nickel oxynitride for phase change ***optical*** ***disks*** as function of sputtering ***gas*** pressure and reactant ***gases*** ratio)
IT 7727-37-9, Nitrogen, reactions 7782-44-7, Oxygen, reactions
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(properties of dielec. thin film of silicon-nickel oxynitride for phase change ***optical*** ***disks*** as function of sputtering ***gas*** pressure and reactant ***gases*** ratio)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Kariyada, E; Proc 15th Symp Phase Change Optical Information Storage 2003, P56
(2) Kayanuma, K; Proc Int Symp Optical Memory 2003, P160
(3) Nagata, K; Ext Abstr (36th Spring Meet 1989) 1989, 1p-ZB-5, P881
(4) Okubo, S; Jpn J Appl Phys 2003, V42, P1052
(5) Okubo, S; SPIE 1998, V3401, P103 CAPLUS
(6) Pan, P; J Electron Mater 1985, V14, P617 CAPLUS
(7) Taylor, R; J Electrochem Soc 1989, V136, P2382 CAPLUS

L9 ANSWER 3 OF 27 CAPLUS 
AN 2005:508822 CAPLUS
DN 143:202825
ED Entered STN: 15 Jun 2005
TI BD-type ***write*** - ***once*** disk with pollutant-free material and starch substrate
AU Hosoda, Yasuo; Higuchi, Takanobu; Shida, Noriyoshi; Imai, Tetsuya; Iida, Tetsuya; Kuriyama, Kazumi; Yokogawa, Fumihiko
CS Corporate Research and Development Laboratories, Pioneer Corporation, 6-1-1 Fujimi, Tsurugashima-shi, Saitama, 350-2288, Japan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Brief Communications & Review Papers (2005), 44(5B), 3587-3590
CODEN: JAPNDE
PB Japan Society of Applied Physics
DT Journal
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
AB The authors realized an inorg. ***write*** - ***once*** ***disk*** for an ***optical*** recording system of the Blu-ray disk format. The authors developed a new Al alloy for the reflective layer and a Nb-compd. oxide nitride material for the dielec. layer. By adopting these materials for the reflective layer and the dielec. layer of their ***write*** - ***once*** disk, the authors achieved complete exclusion of toxic substances specified in the pollutant release and transfer register (PRTR) law. That is, this disk did not contain any substances specified in the PRTR law. The authors confirmed this disk to be compatible with 1x to 2x recording at the user capacity of 25.0 GB. The bottom jitter values of both 1x and 2x were less than 6.0%. In addn., the authors developed another kind of substrate, which was made of a natural polymer derived. from corn starch. The bottom jitter value was 6.0% at the user capacity of 25.0 GB with the limit equalizer.
ST ***write*** ***once*** ***disk*** ***optical*** recording system Blu ray; starch substrate ***write*** ***once*** ***disk*** ***optical*** recording Blu ray
IT Polyolefins
RL: DEV (Device component use); USES (Uses)

(substrate; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT ***Optical*** ROM ***disks***
***Optical*** ***disks***
( ***write*** - ***once*** read-many; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT silver alloy, base
RL: DEV (Device component use); USES (Uses)
(reflective layer; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT 56127-37-8, ***Niobium*** nitride oxide
RL: DEV (Device component use); USES (Uses)
(dielec. layer; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT 50946-57-1
RL: DEV (Device component use); USES (Uses)
(recording layer; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT 11106-92-6
RL: DEV (Device component use); USES (Uses)
(reflective layer; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT 9005-25-8, Corn starch, uses
RL: DEV (Device component use); USES (Uses)
(substrate; ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
IT 1314-98-3, Zinc sulfide, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
( ***write*** - ***once*** ***disk*** for ***optical*** recording system of the Blu-ray disk format with pollutant-free material and starch substrate)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Hosoda, Y; Jpn J Appl Phys 2003, V42, P1040 CAPLUS
(2) Hosoda, Y; Jpn J Appl Phys 2004, V43, P4997 CAPLUS
(3) Katsumura, M; Jpn J Appl Phys 2002, V41, P1698 CAPLUS
(4) Miyanabe, S; Jpn J Appl Phys 1999, V38, P1715 CAPLUS
(5) Tsujita, K; Tech Dig Optical Data Storage 2004 2004, P73


L9 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:182569 CAPLUS
DN 142:269318
ED Entered STN: 04 Mar 2005
TI ***Write*** ***once*** type ***optical*** recording ***medium*** showing favorable recording signal characteristic
IN Kiyono, Kenjirou
PA Mitsubishi Chemical Corporation, Japan; Mitsubishi Kagaku Media Corporation, Ltd.
SO PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 2005018947 | A1 | 20050303 | WO 2004-JP12233 | 20040819 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
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GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,
NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,

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            TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
            EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
            SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
            SN, TD, TG
PRAI JP 2003-297711       A     20030821
     JP 2003-371871       A     20031031
     JP 2004-161554       A     20040531
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------   -----  -----------------------------------------------
 WO 2005018947    ICM    B41M005-26
                  ICS    G11B007-24
```

AB A recording ***medium*** on which ***information*** can be recorded at higher d., particularly a ***write*** - ***once*** ***optical*** recording ***medium*** having a favorable recording signal characteristic in respect of a wide range of recoding power. The recording medium has a recording layer and is recorded by heating the recording layer. The recoding medium is characterized in that the recording layer contains a material (A) decompd. at the temp. that the recording layer reaches when heated during recording and a material (B) such that no chem. reaction nor phase change is caused at the above temp.

ST ***write*** ***once*** ***optical*** recording ***medium*** ***WORM*** ***disk***

IT ***Optical*** ***disks***
( ***write*** - ***once*** read-many; ***write*** ***once*** type ***optical*** recording ***medium*** showing favorable recording signal characteristic)

IT 409-21-2, Silicon carbide, uses 37275-76-6, Aluminum zinc oxide 39409-74-0, ***Niobium*** tin oxide 156321-18-5, Silicon yttrium zirconium oxide 400052-87-1, Chromium germanium nitride
RL: DEV (Device component use); USES (Uses)
(adhesion layer; ***write*** ***once*** type ***optical*** recording ***medium*** showing favorable recording signal characteristic)

IT 12033-62-4, Tantalum nitride 12033-89-5, Silicon nitride, uses 12648-34-9, ***Niobium*** nitride 12674-04-3, Vanadium nitride 25583-20-4, Titanium nitride 55574-97-5, Tin nitride
RL: DEV (Device component use); USES (Uses)
( ***write*** ***once*** type ***optical*** recording ***medium*** showing favorable recording signal characteristic)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) American Telephone And Telegraph Co; JP 61-34741 A 1986
(2) Asahi Glass Co Ltd; JP 61-31288 A 1986 CAPLUS
(3) Dainippon Printing Co Ltd; JP 05-212967 A 1993 CAPLUS
(4) Denso Corp; JP 10-222871 A 1998
(5) Denso Corp; JP 10-329424 A 1998 CAPLUS
(6) Eastman Kodak Co; JP 2000076701 A 2000 CAPLUS
(7) Eastman Kodak Co; US 5972458 A 2000
(8) Eastman Kodak Co; EP 947985 A1 2000 CAPLUS
(9) Fuji Xerox Co Ltd; JP 03-114778 A 1991 CAPLUS
(10) Kuraray Co Ltd; JP 63-299984 A 1988 CAPLUS
(11) Kuraray Co Ltd; JP 03-153389 1991 CAPLUS
(12) Matsushita Electric Industrial Co Ltd; JP 04-121842 A 1992
(13) Mitsubishi Chemical Industries Ltd; JP 62-11685 A 1987 CAPLUS
(14) Mitsui Petrochemical Industries Ltd; JP 02-249687 A 1990 CAPLUS
(15) Mitsui Petrochemical Industries Ltd; EP 366455 A2 1990
(16) Mitsui Petrochemical Industries Ltd; US 5034255 A 1990 CAPLUS
(17) Nec Corp; EP 243958 A2 1987
(18) Nec Corp; EP 243958 A2 1987
(19) Nec Corp; EP 243958 A2 1987
(20) Nec Corp; US 4839208 A 1987
(21) Nec Corp; US 4839208 A 1987
(22) Nec Corp; US 4839208 A 1987
(23) Nec Corp; JP 62-256691 A 1987 CAPLUS
(24) Nec Corp; JP 62-278094 A 1987 CAPLUS
(25) Nec Corp; JP 62-278095 A 1987 CAPLUS
(26) Pioneer Electronic Corp; WO 03101750 A1 2003 CAPLUS
(27) Pioneer Electronic Corp; AU 2003242414 A1 2003
(28) Raitoku Kagi Kofun Yugen Koshi; JP 2002251780 A 2002 CAPLUS

(29) Tazaki, A; JP 02-165991 A 1990 CAPLUS
(30) Toshiba Corp; JP 02-147392 A 1990 CAPLUS
(31) Toshiba Corp; JP 02-277689 A 1990 CAPLUS

L9 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:1030 CAPLUS
DN 142:103254
ED Entered STN: 31 Dec 2004
TI ***Write*** - ***once*** ***optical*** recording ***medium*** comprising mixed ***nickel*** ***oxides***
IN Chang, Hung-Lu; Yen, Wen-Hsin; Chen, Jung-Po; Yen, Po-Fu; Jeng, Tzuan-Ren
PA Industrial Technology Research Institute, Taiwan
SO U.S. Pat. Appl. Publ., 3 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM G11B007-24
INCL 430270120; 430945000; 369288000; 428064800
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 2004265741 | A1 | 20041230 | US 2003-601833 | 20030624 |
| PRAI | US 2003-601833 | | 20030624 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| US 2004265741 | ICM | G11B007-24 |
| | INCL | 430270120; 430945000; 369288000; 428064800 |
| US 2004265741 | NCL | 430/270.120 |

AB An ***optical*** recording ***medium*** includes: (a) a dielec. layer, (b) a recording layer, and (c) a reflective layer, which are stacked on a surface of a substrate in the described order or stacked on the surface in the order of: (b) the recording layer, (a) the dielec. layer, and (c) the reflective layer. The recording layer contains a mixed ***nickel*** ***oxides*** which decomps. to release a ***gas*** and becomes transparent upon heating. In comparison with silver oxide and iron nitride, a ***NiOx*** recording layer is more stable in air, and as a result, the ***write*** - ***once*** ***optical*** recording ***medium*** is more reliable for an extended period of time both before and after recording. Moreover, the ***NiOx*** recording layer will not only decomp. to release a ***gas*** but become transparent from its original ***black*** color upon exposure to recording laser light, and these enable reprodn. of signals in accordance with not only the CD std. but DVD and HD-DVD stds. The ***NiOx*** mixed oxides is non-toxic and has a relatively lower decompn. temp.
ST ***optical*** recording ***medium*** ROM DVD ***disk*** ***nickel*** ***oxide***
IT ***Optical*** ROM ***disks***
( ***write*** - ***once*** ***optical*** recording ***medium*** comprising mixed ***nickel*** ***oxides*** )
IT 1313-99-1, ***Nickel*** ***oxide*** , uses 1314-06-3, ***Nickel*** ***oxide*** ($Ni_2O_3$) 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
( ***write*** - ***once*** ***optical*** recording ***medium*** comprising mixed ***nickel*** ***oxides*** )

L9 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:779281 CAPLUS
DN 141:285889
ED Entered STN: 24 Sep 2004
TI ***Optical*** ***information*** recording ***medium*** for blue ***laser*** and manufacture thereof
IN Shinotsuka, Michiaki; Shinkai, Masaru
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
ICS G11B007-26

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CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 2004265540        A2    20040924    JP 2003-56267          20030303
PRAI JP 2003-56267              20030303
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------
 JP 2004265540   ICM    G11B007-24
                 ICS    G11B007-26
 JP 2004265540   FTERM  5D029/HA06; 5D029/JA01; 5D029/JB13; 5D029/JB16;
                        5D029/JB35; 5D029/JB47; 5D029/JC04; 5D029/JC11;
                        5D029/LA13; 5D029/LA14; 5D029/LB01; 5D029/LC06;
                        5D029/MA13; 5D121/AA01; 5D121/EE03; 5D121/EE13;
                        5D121/EE17
AB   Disclosed is the   ***optical***    ***information***   recording
       ***medium***   coprising a recording layer contg. a mixt. of a carbide and
     an oxide of elements selected from Ti, Zr, V, Nb, Ta, Cr, and Mo.  Also
     disclosed is the process involving sputtering in an inert   ***gas***
     atm.  The recording layer is free of Sb and Te.
ST     ***optical***     ***information***   recording   ***medium***   blue
       ***laser***   sputtering
IT   Sputtering
        (  ***optical***     ***information***   recording   ***medium***
        free of Sb and Te for blue laser)
IT     ***Optical***     ***disks***
        (rewritable;   ***optical***     ***information***   recording
          ***medium***   free of Sb and Te for blue laser)
IT   1313-96-8,   ***Niobium***   oxide   1314-61-0, Tantalum oxide
     12069-94-2,   ***Niobium***   carbide   12070-06-3, Tantalum carbide
     12070-08-5, Titanium carbide   13463-67-7, Titanium oxide, processes
     RL: DEV (Device component use); EPR (Engineering process); PEP (Physical,
     engineering or chemical process); PROC (Process); USES (Uses)
        (  ***optical***     ***information***   recording   ***medium***
        free of Sb and Te for blue laser)

L9   ANSWER 7 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2004:451111  CAPLUS
DN   141:14527
ED   Entered STN:  04 Jun 2004
TI   Optical recording material with dielectric layer
IN   Inoue, Hiroyasu; Aoshima, Masataka; Kakiuchi, Hironori; Mishima, Koji
PA   TDK Corporation, Japan
SO   Jpn. Kokai Tokkyo Koho, 14 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  G11B007-24
     ICS  B41M005-26
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 2004158145        A2    20040603    JP 2002-324649         20021108
PRAI JP 2002-324649             20021108
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------
 JP 2004158145   ICM    G11B007-24
                 ICS    B41M005-26
 JP 2004158145   FTERM  2H111/EA03; 2H111/EA25; 2H111/FA02; 2H111/FA21;
                        2H111/FA24; 2H111/FA25; 2H111/FA26; 2H111/FA28;
                        2H111/FB04; 2H111/FB05; 2H111/FB06; 2H111/FB17;
                        2H111/FB19; 2H111/FB21; 5D029/JA01; 5D029/JB03;
                        5D029/JB05; 5D029/JB13; 5D029/JB47; 5D029/LA13;
                        5D029/LA14; 5D029/LA16
AB   The material comprises a recording layer contg. inorg. materials and an
     adjacent dielec. layer contg. Ta2O5, Al2O3, SiO2, TiO2, GeO2, Nb2O5, SnO2,
     CeO2, Y2O3, La2O3, AlN, Si3N4, GeN, SiC, MgF2 or their mixt. and
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    ***write***  -  ***once***   by 380-450 nm laser beam.  The material shows
   good optical characteristics and the recoding layer is protected by the
   dielec. layer.
ST    ***worm***     ***disk***     ***optical***    recording material dielec
   layer
IT    ***Optical***     ***disks***
      ( ***write***  -  ***once***   read-many;    ***worm***    disk with
      dielec. protective layer)
IT    7440-21-3, Silicon, uses   7440-31-5, Tin, uses   7440-56-4, Germanium,
   uses   7440-66-6, Zinc, uses   666840-71-7
   RL: TEM (Technical or engineered material use); USES (Uses)
      (recording layer;   ***worm***   disk with dielec. protective layer)
IT    409-21-2, Silicon carbide, uses   1306-38-3, Cerium oxide, uses
   1310-53-8, Germania, uses   1312-81-8, Lanthanum oxide   1313-96-8,
     ***Niobium***   oxide   1314-36-9, Yttrium oxide, uses   1314-61-0,
   Tantalum oxide   1344-28-1, Alumina, uses   7631-86-9, Silica, uses
   7783-40-6, Magnesium fluoride   12033-89-5, Silicon nitride, uses
   12064-98-1, Germanium nitride (GeN)   13463-67-7, Titania, uses
   18282-10-5, Tin oxide (SnO2)   24304-00-5, Aluminum nitride   151717-40-7,
   Lanthanum nitride oxide silicide
   RL: TEM (Technical or engineered material use); USES (Uses)
      ( ***worm***   disk with dielec. protective layer)

L9   ANSWER 8 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2003:670922  CAPLUS
DN   139:188382
ED   Entered STN:  28 Aug 2003
TI   Optical recording material using oxygen-deficient transition metal oxide
IN   Kochiyama, Akira; Aratani, Katsuhisa
PA   Sony Corp., Japan
SO   Jpn. Kokai Tokkyo Koho, 6 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  B41M005-26
     ICS  G11B007-004; G11B007-24
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 2003237242        A2    20030827    JP 2002-46065          20020222
     WO 2003070479        A1    20030828    WO 2003-JP1307         20030207
         W:  CN, KR, US
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IT, LU, MC, NL, PT, SE, SI, SK, TR
PRAI JP 2002-46065        A     20020222
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 JP 2003237242   ICM    B41M005-26
                 ICS    G11B007-004; G11B007-24
 WO 2003070479   ECLA   G11B007/251
AB   The material comprises a support coated with a recording layer contg.
     oxygen-deficient transition metal oxide.  The material is recorded by
     light with wavelength .ltoreq.600 nm.  The material is suited for high d.
     recording and reading.
ST   oxygen deficient transition metal oxide optical recording material
IT     ***Optical***     ***disks***
       ( ***write***  -  ***once***   read-many;   ***optical***   recording
       material using oxygen-deficient transition metal oxide)
IT   1313-99-1D,   ***Nickel***     ***oxide***    (  ***NiO***   ),
     nonstoichiometric   1314-23-4, Zirconium oxide (ZrO2), uses   1332-37-2,
     Iron oxide, uses   1344-28-1, Aluminum oxide (Al2O3), uses   1344-70-3,
     Copper oxide   11098-99-0, Molybdenum oxide   11099-11-9, Vanadium oxide
     11104-61-3, Cobalt oxide   11113-84-1, Ruthenium oxide   11118-57-3,
     Chromium oxide   11129-60-5, Manganese oxide   12627-00-8,   ***Niobium***
     oxide   13463-67-7, Titanium oxide (TiO2), uses   20667-12-3D, Silver
     oxide (Ag2O), nonstoichiometric   59763-75-6, Tantalum oxide
     RL: DEV (Device component use); USES (Uses)
       (optical recording material using oxygen-deficient transition metal
       oxide)
```

L9 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:939054 CAPLUS
DN 138:212177
ED Entered STN: 11 Dec 2002
TI Optical parametric fluorescence spectra in periodically poled media
AU Beskrovnyy, Vladislav; Baldi, Pascal
CS Lab. de Physique de la Matiere Condensee - UMR CNRS 6622, Univ. de Nice Sophia-Antipolis, Nice, 06108, Fr.
SO Optics Express [online computer file] (2002), 10(19), 990-995
CODEN: OPEXFF; ISSN: 1094-4087
URL: http://www.opticsexpress.org/view_file.cfm?doc=%24%28%2C%3F%28I%40%2D%20%0A&id=%24%28L%2F%2EJ%40%2D%20%0A
PB Optical Society of America
DT Journal; (online computer file)
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB A theor. method and an original numerical procedure to calc. the light spectra generated by optical parametric fluorescence (OPF) in a periodically polled medium is presented. This efficient procedure allows the authors to precisely study the generation in a periodically poled Li ***niobate*** crystal. As an example, the ***evolution*** of the OPF spectra as a function of the pump frequency is presented as an animation. Also, OPF spectra can be generated when the pump frequency goes below the degeneracy.
ST ***optical*** parametric fluorescence periodically poled ***media*** lithium ***niobate***
IT Nonlinear optical properties
Optical gain
(optical parametric fluorescence spectra in periodically poled media)
IT Fluorescence
(optical parametric; optical parametric fluorescence spectra in periodically poled media)
IT 12031-63-9, Lithium ***niobate*** linbo3
RL: PRP (Properties)
(periodically poled; optical parametric fluorescence spectra in periodically poled media)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Armstrong, J; Phys Rev 1962, V127, P1918 CAPLUS
(2) Baldi, P; IEEE J Quantum Electron 1995, V31, P997 CAPLUS
(3) Chirkin, A; Quantum Electronics 2000, V30, P847 CAPLUS
(4) Fejer, M; Beam shaping and control with nonlinear optics 1997, P375
(5) Rauber, A; Current topics in Materials Science 1978, P529
(6) Tanzilli, S; Eur Phys J D 2002, V18, P155 CAPLUS


L9 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:656092 CAPLUS
DN 137:192819
ED Entered STN: 30 Aug 2002
TI Phase-change recording element for ***write*** ***once*** application
IN Tyan, Yuan-Sheng; Cushman, Thomas Richard; Farruggia, Giuseppe; Olin, George Russell; Primerano, Bruno; Vazan, Fridrich; Barnard, James Arthur
PA Eastman Kodak Company, USA
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 1235213 | A2 | 20020828 | EP 2002-75549 | 20020211 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| | US 2002160304 | A1 | 20021031 | US 2001-791322 | 20010222 |
| | US 6497988 | B2 | 20021224 | | |
| | TW 221607 | B1 | 20041001 | TW 2001-90131345 | 20011218 |

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    JP 2002312976         A2     20021025    JP 2002-44178          20020221
PRAI US 2001-791322         A      20010222
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ---------------------------------------------------
 EP 1235213      ICM    G11B007-24
 EP 1235213      ECLA   G11B007/0045P; G11B007/24; G11B007/243
 US 2002160304   NCL    430/270.110
                 ECLA   G11B007/0045P; G11B007/24; G11B007/243
AB   A   ***WORM***   optical recording element includes (1) a substrate; (2)
     an amorphous phase-change recording layer disposed over the substrate; (3)
     a dielec. layer disposed adjacent to the amorphous phase-change layer; (4)
     a reflector layer disposed adjacent to the dielec. layer.  The material
     and the thickness of the layers are selected such that recording can be
     performed on the optical recording element by using a focused laser beam
     to form cryst. marks in the phase-change layer using laser pulses with <
     40 nS in duration, the reflectivity of the amorphous phase as measured by
     a collimated beam is > 28% and the contrast of the read-back signal is >
     0.6, and the second and subsequent writing over previous recording results
     in at least a 50% increase in read out jitter.
ST   phase change   ***optical***   recording   ***disk***     ***write***
       ***only***
IT     ***Optical***     ***disks***
     Optical recording materials
        (phase-change recording element for   ***write***     ***once***
        application)
IT   7429-90-5, Aluminum, uses   7439-89-6, Iron, uses   7439-96-5, Manganese,
     uses   7439-98-7, Molybdenum, uses   7440-02-0, Nickel, uses   7440-03-1,
       ***Niobium***  , uses   7440-05-3, Palladium, uses   7440-06-4, Platinum,
     uses   7440-21-3, Silicon, uses   7440-29-1, Thorium, uses   7440-31-5,
     Tin, uses   7440-32-6, Titanium, uses   7440-33-7, Tungsten, uses
     7440-36-0, Antimony, uses   7440-38-2, Arsenic, uses   7440-43-9, Cadmium,
     uses   7440-50-8, Copper, uses   7440-55-3, Gallium, uses   7440-56-4,
     Germanium, uses   7440-57-5, Gold, uses   7440-58-6, Hafnium, uses
     7440-62-2, Vanadium, uses   7440-66-6, Zinc, uses   7440-74-6, Indium,
     uses   7704-34-9, Sulfur, uses   7723-14-0, Phosphorus, uses   7782-44-7,
     Oxygen, uses   7782-49-2, Selenium, uses   13494-80-9, Tellurium, uses
     RL: DEV (Device component use); USES (Uses)
        (phase-change recording element for   ***write***     ***once***
        application contg.)

L9   ANSWER 11 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2002:238014  CAPLUS
DN   136:286653
ED   Entered STN:  28 Mar 2002
TI   Phase-change   ***optical***     ***information***   recording
       ***media***   with excellent overwritability and their manufacture
IN   Shinkai, Masaru; Konagi, Nobuaki
PA   Ricoh Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 11 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  G11B007-24
     ICS  G11B007-24; G11B007-26
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 2002092950        A2    20020329    JP 2000-277172         20000912
PRAI JP 2000-277172             20000912
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ---------------------------------------------------
 JP 2002092950   ICM    G11B007-24
                 ICS    G11B007-24; G11B007-26
AB   The medium contains a transparent substrate, a 1st dielec. layer, a
     recording layer, a 2nd dielec. layer, and a reflection layer in this
     order, wherein at least one of the dielec. layers, facing the recording
     layer, comprises a dielec. material contg. a compd. free from Group IVA
     elements (except C) or a mixt. of the compd. and ZnS.  The medium may be
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manufd. by sputtering the dielec. material as a target in the presence of a rare ***gas*** and optionally O ***gas*** .

ST ***optical*** ***information*** recording ***medium*** direct overwrite; rewritable ***optical*** ***disk*** metal oxide sputtering; titanium oxide dielec layer sputtering disk

IT Magnetron sputtering
Sputtering
(direct-current; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT Erasable ***optical*** ***disks***
(manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT Polycarbonates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 405890-55-3P, Titanium zinc oxide sulfide (Ti0.2Zn0.8O0.4S0.8)
405890-57-5P, ***Niobium*** zinc oxide sulfide
(Nb0.12Zn0.92O0.28S0.92) 405890-58-6P, Chromium zinc oxide sulfide
(Cr0.4Zn0.8O0.6S0.8)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dielec. layer; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 1308-38-9, Chromium oxide, uses 12627-00-8, ***Niobium*** oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(dielec. layer; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 178255-68-0P, Silicon zinc oxide sulfide (Si0.1Zn0.4O0.2S0.4)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(recording layer; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 404003-64-1 405890-59-7
RL: TEM (Technical or engineered material use); USES (Uses)
(recording layer; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 7440-22-4, Silver, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reflection layer; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

IT 7440-37-1, Argon, uses
RL: NUU (Other use, unclassified); USES (Uses)
(sputtering ***gas*** ; manuf. of rewritable ***optical*** ***disks*** with good direct overwriting properties)

L9 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:725580 CAPLUS
DN 136:11969
ED Entered STN: 04 Oct 2001
TI Characteristics of second-harmonic generation including third-order nonlinear interactions
AU Jeong, Yoonchan; Lee, Byoungho
CS School of Electrical Engineering, Seoul National University, Seoul, 151-744, S. Korea
SO IEEE Journal of Quantum Electronics (2001), 37(10), 1292-1300
CODEN: IEJQA7; ISSN: 0018-9197
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
CC 73-1 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB A theor. anal. is presented for 2nd-harmonic generation in nonlinear dielec. media. Math. expressions are derived for both the amplitude and phase ***evolution*** of optical waves for 2nd-harmonic generation, wherein both 2nd- and 3rd-order nonlinear interactions are taken into consideration. Based on the results, numerical examples of 2nd-harmonic generation in LiNbO3 are presented, and the effects of 3rd-order interactions on the frequency conversion efficiency and the intensity-dependent phase-matching condition are discussed. The derived result is amenable to a rigorous anal. of 2nd-harmonic generation with a high-intensity incidence to nonlinear dielec. ***media*** ; where the

intensity-dependent ***optical*** parameters cannot be neglected.
ST second harmonic generation nonlinear interaction dielec medium
IT Electric insulators
Second-harmonic generation
(characteristics of second-harmonic generation including third-order nonlinear interactions)
IT 12031-63-9, Lithium ***niobium*** oxide (LiNbO3)
RL: PRP (Properties)
(characteristics of second-harmonic generation including third-order nonlinear interactions)
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Armstrong, J; Phys Rev 1962, V127, P1918 CAPLUS
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(18) Yariv, A; Optical Waves in Crystals 1984


L9 ANSWER 13 OF 27 CAPLUS 
AN 2001:488622 CAPLUS
DN 135:49929
ED Entered STN: 06 Jul 2001
TI Zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings
IN Ueno, Takashi; Noguchi, Yukio
PA Furuya Metal Co., Ltd., Japan
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C04B035-547
ICS C23C014-34; G11B007-24
CC 57-2 (Ceramics)
Section cross-reference(s): 74
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 1112988 | A1 | 20010704 | EP 2000-128011 | 20001220 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| | JP 2001181045 | A2 | 20010703 | JP 1999-373803 | 19991228 |
| | JP 2001189035 | A2 | 20010710 | JP 1999-373822 | 19991228 |
| PRAI | JP 1999-373803 | A | 19991228 | | |
| | JP 1999-373822 | A | 19991228 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| EP 1112988 | ICM | C04B035-547 |
| | ICS | C23C014-34; G11B007-24 |
| EP 1112988 | ECLA | C04B035/547; C23C014/06D2; C23C014/34B2; G11B007/254 |


AB Zinc sulfide ZnS sintered thin films includes ZnS as a main component and 5-50 wt.% ***niobium*** oxide Nb2O5. Since these ZnS-Nb2O5 materials have low resistance, they can be used as d.c. sputtering targets to produce thin films with increased deposition rates. The resultant thin films are used as protective layers on the recording layer of ***laser*** ***optical*** recording ***media*** (such as rewritable CDs or DVDs).

ST zinc sulfide ***niobium*** oxide ceramic film ***optical***

recording ***medium*** ; sputtering target zinc sulfide ***niobium*** oxide ceramic optical recording
IT Films
(ceramic, zinc sulfide-based; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Sputtering targets
(d.c. or RF sputtering; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Ceramics
(films, zinc sulfide-based; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Sintering
(hot isostatic pressing; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Sintering
(hot pressing, inert ***gas*** ; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Controlled atmospheres
(inert atm.; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Optical recording
(protective ZnS layer; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Particle size
Refractive index
Sheet resistance
(zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT Ceramics
(zinc sulfide- ***niobium*** oxide; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
IT 1313-96-8, ***niobium*** oxide Nb2O5 1314-98-3, Zinc sulfide (ZnS), processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(films; zinc sulfide- ***niobium*** oxide ceramic thin films as sputtering targets and optical recording protective coatings)
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Daicel Chem Ind Ltd; JP 05290408 A 1993

L9 ANSWER 14 OF 27 CAPLUS 
AN 2001:302137 CAPLUS
DN 135:114396
ED Entered STN: 29 Apr 2001
TI High-density read-only memory disc with super resolution reflective layer
AU Kikukawa, Takashi; Kato, Tatsuya; Shingai, Hiroshi; Utsunomiya, Hajime
CS Data Storage Technology Center, TDK Chikumagawa the 1st. Technical Center, TDK Corporation, Nagano, 385-0009, Japan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (2001), 40(3B), 1624-1628
CODEN: JAPNDE; ISSN: 0021-4922
PB Japan Society of Applied Physics
DT Journal
LA English
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
AB The authors report that super-resoln. readout occurred in read-only memory (ROM) disks with very simple materials and structure. By adopting a 15-nm-thick layer of Ge, Si, Mo, and W as a reflective layer, a carrier-to-noise ratio over 40 dB could be obtained from small pits which were below the resoln. limit of optical system. Exptl. and thermal simulation results showed that the super resoln. readout phenomenon in the disks is strongly correlated to the film temps. that are reached when a

laser spot is irradiated on the films. Signal characterizations suggest that the super resoln. readout mechanism of the disks is different from those of conventional ROM and conventional super-resoln. ROM disks. The authors have named them Super-ROM disks.

ST read only memory ***disk*** ***optical*** super resoln reflection; temp ***optical*** reflection read only memory ***disk*** super resoln

IT ***Optical*** ROM ***disks***
Optical reflection
Thermooptical effect
(high-d. read-only memory disk with super resoln. reflective layer)

IT Metals, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(reflective layer; high-d. read-only memory disk with super resoln. reflective layer)

IT Polycarbonates, uses
RL: DEV (Device component use); USES (Uses)
(substrate; high-d. read-only memory disk with super resoln. reflective layer)

IT 12033-89-5, silicon nitride si3n4, uses
RL: DEV (Device component use); USES (Uses)
(high-d. read-only memory disk with super resoln. reflective layer)

IT 7429-90-5, Aluminum, properties 7439-89-6, Iron, properties 7439-96-5, Manganese, properties 7439-98-7, Molybdenum, properties 7440-02-0, Nickel, properties 7440-03-1, ***Niobium*** , properties 7440-05-3, Palladium, properties 7440-06-4, Platinum, properties 7440-21-3, Silicon, properties 7440-22-4, Silver, properties 7440-25-7, Tantalum, properties 7440-31-5, Tin, properties 7440-32-6, Titanium, properties 7440-33-7, Tungsten, properties 7440-44-0, Carbon, properties 7440-47-3, Chromium, properties 7440-48-4, Cobalt, properties 7440-50-8, Copper, properties 7440-56-4, Germanium, properties 7440-57-5, Gold, properties 7440-62-2, Vanadium, properties 7440-66-6, Zinc, properties 7440-67-7, Zirconium, properties 7440-69-9, Bismuth, properties 7440-74-6, Indium, properties 13494-80-9, Tellurium, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(reflective layer; high-d. read-only memory disk with super resoln. reflective layer)

IT 7727-37-9, Nitrogen, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sputtering ***gas*** mixt. component; high-d. read-only memory disk with super resoln. reflective layer)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L9 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:116981 CAPLUS
DN 132:174949
ED Entered STN: 18 Feb 2000
TI Inorganic hydrogen and hydrogen polymer compounds and applications thereof
IN Mills, Randell L.
PA USA
SO PCT Int. Appl., 385 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C01B006-00
CC 78-5 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 50, 52, 67, 71, 76, 79
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2000007931 | A2 | 20000217 | WO 1999-US17129 | 19990729 |

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     WO 2000007931        A3     20000713
         W:  AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
             DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
             JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
             MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
             TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD,
             RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
             ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
             CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2336995           AA     20000217   CA 1999-2336995        19990729
     AU 2000013081        A1     20000228   AU 2000-13081          19990729
     AU 752869            B2     20021003
     ZA 2001000797        A      20010919   ZA 2001-797            20010129
PRAI US 1998-95149P       P      19980803
     US 1998-101651P      P      19980924
     US 1998-105752P      P      19981026
     US 1998-113713P      P      19981224
     US 1999-123835P      P      19990311
     US 1999-130491P      P      19990422
     US 1999-141036P      P      19990629
     WO 1999-US17129      W      19990729
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 2000007931   ICM    C01B006-00
 WO 2000007931   ECLA   C01B003/00; C01B006/04; C01B006/24; C01B015/00;
                        H01M004/36; H01M008/00
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AB Compds. are provided comprising at least one neutral, pos., or neg. hydrogen species having a binding energy greater than its corresponding ordinary hydrogen species, or greater than any hydrogen species for which the corresponding ordinary hydrogen species is unstable or is not obsd. Compds. comprise at least one increased binding energy hydrogen species and at least one other atom, mol., or ion other than an increased binding energy hydrogen species. One group of such compds. contains one or more increased binding energy hydrogen species selected from the group consisting of Hn, Hn-, and Hn-, where n is a pos. integer, with the proviso that n > 1 when H has a pos. charge. Another group of such compds. may have the formula [MHmM'X]n wherein m and n are each an integer, M and M' are each an alkali or alk. earth cation, X is a singly or doubly neg. charged anion, and the hydrogen content Hm of the compd. comprises at least one increased binding energy hydrogen species. Methods of forming the compds. and numerous applications are disclosed. A method for forming the compds. comprises reacting gaseous hydrogen atoms with a gaseous metal catalyst (list of metals provided) and reaction of the formed hydrino atoms with at least one selected from the group of a source of electrons (H+, increased binding energy hydrogen species, other element). A method for extg. energy from H atoms further comprises the step of applying an adjustable elec. or magnetic field to control the rate of energy release. Thus, potassium iodo hydride (KHI) comprising high binding energy hydride ions (hydrino hydrides) are prepd. by reaction of at. hydrogen with potassium iodide in the presence of potassium metal catalyst in a stainless steel ***gas*** cell (app. diagrams provided).
The blue crystals were characterized by a no. of methods (ToF-SIMS, XPS, 1H and 39K MAS NMR, FTIR, Electrospray-Ionization-Time-of-Flight Mass Spectroscopy, LC/MS, elemental anal., thermal decompn.). The compd. contains two forms of hydride ion; thermal decompn. with mass spectral anal. indicates at least H-(1/2) is present in KHI which may be responsible for the blue color. The objective of the invention is to provide compds. that can be used in a wide variety of applications, e.g., batteries, fuel cells, cutting materials, light-wt. high-strength materials and synthetic fibers, corrosion or heat-resistant coatings, xerog. compds., proton source, photoluminescent compds., phosphors for lighting, UV and visible light source, photoconductors, photovoltaics, chemiluminescent or fluorescent compds., optical coatings or filters, extreme UV ***laser*** ***media*** , fiber optic cables, magnets and magnetic computer storage media, superconductors, etching agents, masking agents, agents to purify silicon, dopants in semiconductor fabrication, cathodes for thermoionic generators, fuels, explosives, and propellants. Claimed uses of the present invention include sepn. of isotopes, a proton source, xerog. toner, use in a magnet or magnetic computer memory storage material, or as an etching agent. Time-of-flight

secondary ion mass spectral data (ToF-SIMS) are listed for a wide variety
of hydrino hydride compds. or their fragments.

ST hydrino hydride inorg compd prepn; hydrogen hydrino polymer inorg compd prepn; alkali metal hydrino hydride prepn; metal catalyst hydrino hydride prepn; binding energy hydrino hydride; etching agent hydrino hydride compd; isotope sepn hydrino hydride compd; magnet memory storage hydrino hydride compd

IT Catalysts
(gaseous metals as catalysts in prepn. of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT Transition metals, uses
RL: CAT (Catalyst use); USES (Uses)
(gaseous transition metals as catalysts for prepn. of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT Alkaline earth compounds
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)
(hydrides; prepn. and uses of hydrino-contg. alk. earth hydrides)

IT Binding energy
(in relation to prepn. of inorg. hydrino-contg. hydrogen and hydrogen polymer compds.)

IT Etching
(inorg. hydrino-contg. hydrogen and hydrogen polymer compds. as etching agents)

IT Isotope separation
(inorg. hydrino-contg. hydrogen and hydrogen polymer compds. for isotope sepn.)

IT Memory effect
(magnetic; inorg. hydrino-contg. hydrogen and hydrogen polymer compds. as magnetic computer memory storage material)

IT Alkali metal hydrides
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)
(prepn. and uses of hydrino-contg. alkali metal hydrides)

IT Hydrides
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)
(prepn. and uses of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT Transition metal hydrides
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)
(prepn. and uses of metal hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT Electrophotographic toners
(xerog. toners; inorg. hydrino-contg. hydrogen and hydrogen polymer compds.)

IT 7429-91-6, Dysprosium, uses 7439-89-6, Iron, uses 7439-90-9, Krypton, uses 7439-92-1, Lead, uses 7439-93-2, Lithium, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-03-1, ***Niobium*** , uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-10-0, Praseodymium, uses 7440-17-7, Rubidium, uses 7440-19-9, Samarium, uses 7440-24-6, Strontium, uses 7440-31-5, Tin, uses 7440-32-6, Titanium, uses 7440-38-2, Arsenic, uses 7440-41-7, Beryllium, uses 7440-45-1, Cerium, uses 7440-46-2, Cesium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-54-2, Gadolinium, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses 7440-70-2, Calcium, uses 7782-49-2, Selenium, uses 13494-80-9, Tellurium, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst for prepn. of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT 7440-09-7, Potassium, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst for prepn. of inorg. hydrides and hydrogen polymer compds. contg. hydrino hydrides)

IT 14234-48-1, Helium ion(1+), reactions 22537-38-8, Rubidium ion(1+), reactions 24203-36-9, Potassium ion(1+), reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(for prepn. of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT 7681-11-0, Potassium iodide, reactions 12385-13-6, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(for prepn. of inorg. hydrides and hydrogen polymer compds. contg. hydrino hydrides)

IT 50808-20-3DP, Silicon hydride, inorg. hydrino-contg. compd. with hydrogen polymer 169217-93-0DP, Hydrogen, mol. (H16), inorg. hydrino-contg. compd., preparation 169217-94-1DP, Hydrogen, mol. (H24), inorg. hydrino-contg. compd., preparation 179466-41-2DP, Hydrogen, mol. (H10), inorg. hydrino-contg. compd., preparation 258858-25-2P, Potassium carbonate hydride hydroxide 258880-05-6DP, Hydrogen, ion (H161-), inorg. hydrino-contg. compd., preparation 258880-32-9DP, Hydrogen, mol. (H60), inorg. hydrino-contg. compd., preparation 258880-33-0DP, Hydrogen, mol. (H70), inorg. hydrino-contg. compd., preparation
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); PREP (Preparation); USES (Uses)
(prepn. and uses of hydrino-contg. inorg. hydrogen or hydrogen polymer compds.)

IT 258858-22-9P, Potassium carbonate hydride 258858-23-0P, Potassium hydride nitrate (K2H(NO3)) 258858-24-1P, Potassium hydride hydroxide (K2H(OH))
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of inorg. hydride compd. contg. hydrino hydrides)

IT 258851-61-5P, Potassium hydride iodide (KHI)
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of inorg. hydride contg. hydrino hydrides, thermal decompn., air oxidn./hydrolysis, and characterization by multiple methods)

IT 258858-21-8P, Potassium carbonate hydride (K2(HCO3)H)
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of inorg. hydride/hydrogen compd. contg. hydrino hydrides)

L9 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:186243 CAPLUS
DN 128:327867
ED Entered STN: 30 Mar 1998
TI Spectroscopic ellipsometry of electrochemical precipitation and oxidation of nickel hydroxide films
AU Kong, Fanping; Kostecki, Robert; McLarnon, Frank; Muller, Rolf H.
CS Environ. Energy Technol. Div., Lawrence Berkeley Natl. Lab., Berkeley, CA, 94720, USA
SO Thin Solid Films (1998), 313-314, 775-780
CODEN: THSFAP; ISSN: 0040-6090
PB Elsevier Science S.A.
DT Journal
LA English
CC 72-2 (Electrochemistry)
Section cross-reference(s): 73
AB In situ spectroscopic ellipsometry was used to study the electrochem. pptn. of nickel hydroxide films. Using optical models for inhomogeneous films a specific pptn. c.d. produced the most compact and homogeneous film structures. The d. of nickel hydroxide films was derived to be 1.25-1.50 g/cm3. The redox behavior of pptd. nickel hydroxide films was studied with an effective- ***medium*** ***optical*** model. Incomplete conversion to nickel oxyhydroxide and a redn. in film thickness were found during the oxidn. cycle.
ST spectroscopic ellipsometry nickel hydroxide film; electrochem deposition nickel hydroxide film; nickel hydroxide film electrodeposition electrooxidn ellipsometry
IT Redox reaction
(electrochem.; of nickel hydroxide films)
IT Electrodeposition
Ellipsometry
Oxidation, electrochemical
(spectroscopic ellipsometry of electrochem. pptn. and oxidn. of nickel hydroxide films)
IT 12026-04-9, ***Nickel*** hydroxide ***oxide*** ni(oh)o
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(electrochem. oxidative formation: spectroscopic ellipsometry of electrochem. pptn. and oxidn. of nickel hydroxide films)

IT 13138-45-9, Nickel nitrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrodeposition of nickel hydroxide film in soln. contg.)

IT 7782-44-7, Oxygen, properties
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
( ***evolution*** on platinum with nickel hydroxide film)

IT 7440-06-4, Platinum, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(oxygen ***evolution*** on platinum with nickel hydroxide film)

IT 12054-48-7, Nickel hydroxide ni(oh)2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(spectroscopic ellipsometry of electrochem. pptn. and oxidn. of nickel hydroxide films)

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(16) Streinz, C; J Electrochem Soc 1995, V142, P4051 CAPLUS



AN 1997:649993 CAPLUS
DN 128:8443
ED Entered STN: 13 Oct 1997
TI General numerical methods for simulating second-order nonlinear interactions in birefringent media
AU Arisholm, Gunnar
CS Forsvarets forskningsinstitutt (Norwegian Defence Research Establishment), PO Box 25, Kjeller, N-2007, Norway
SO Journal of the Optical Society of America B: Optical Physics (1997), 14(10), 2543-2549
CODEN: JOBPDE; ISSN: 0740-3224
PB Optical Society of America
DT Journal
LA English
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB Two computational methods are common for simulating the ***evolution*** of three beams propagating in a birefringent medium and interacting through a second-order nonlinearity: the split-step method and soln. of the coupled equations for the amplitudes of the spatial frequency components of the beams (Fourier-space method). I (i) compare the accuracy and computational cost of both methods, (ii) study the effect of using a first-order expansion for the refractive index as a function of propagation direction, and (iii) generalize both methods to handle arbitrary propagation directions in biaxial crystals. It turns out that the Fourier-space method with a Runge-Kutta solver gives best accuracy, but a symmetrized split-step method may be faster when low accuracy is sufficient. The first-order expansion for the refractive index gives a very small error for well-collimated beams, but the approxn. is not important for computational efficiency. Modeling of parametric amplification outside the principal planes of a biaxial crystal is demonstrated, and to the author's knowledge this process was not modeled in such detail before.
ST numerical simulation nonlinear second order interaction; ***optical*** parametric amplification birefringent ***media*** simulation;

potassium titanyl phosphate parametric amplification simulation;
***niobate*** potassium parametric amplification simulation

IT Birefringence
Laser radiation
Second-order nonlinear optical properties
(numerical simulation of second-order nonlinear interactions in birefringent media)

IT Refractive index
(numerical simulation of second-order nonlinear interactions in birefringent media with calcn. of)

IT 12690-20-9, Potassium titanyl phosphate (KTiO(PO4))
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(numerical simulation of non-critically phase matched optical parametric amplification)

IT 12030-85-2, Potassium ***niobate*** (KNbO3)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(numerical simulation of type 2 parametric amplification outside principal planes of a biaxial crystal)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L9 ANSWER 18 OF 27 CAPLUS 


AN 1997:404053 CAPLUS
DN 127:168579
ED Entered STN: 30 Jun 1997


TI Amplitude squeezing from singly resonant frequency-doubling laser


AU Maeda, Joji; Numata, Takuya; Kogoshi, Sumio
CS Dep. Electrical Eng., Fac. Sci. Technol., Sci. Univ. Tokyo, Chiba, 278, Japan



SO IEEE Journal of Quantum Electronics (1997), 33(7), 1057-1067
CODEN: IEJQA7; ISSN: 0018-9197
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)



AB The authors analyze amplitude squeezing from a singly resonant frequency-doubling laser oscillating at a single frequency. In this laser system, the cavity loss depends on the intensity of the oscillating fundamental field, so that conventional analyses based on a mean-field approxn. become invalid in a highly pumped regime. To avoid this inconvenience, we consider spatial ***evolution*** of fields both in a ***laser*** ***medium*** and in a nonlinear crystal. It is predicted for the first time that a combination of excess nonlinearity and modest laser satn. can increase the output noise. We propose novel indexes to evaluate the possible noise enhancement and suggest a design rule for squeezed light generation.


ST amplitude squeezing frequency doubling laser

```
IT   Lasers
        (amplitude squeezing from singly resonant frequency-doubling laser)
IT   1309-48-4, Magnesium oxide (MgO), uses   12005-21-9, Aluminum yttrium
     oxide (Al5Y3O12)   12031-63-9, Lithium   ***niobate***   (LiNbO3)
     14913-52-1, Neodymium(3+), uses
     RL: DEV (Device component use); USES (Uses)
        (amplitude squeezing from singly resonant frequency-doubling laser)

L9   ANSWER 19 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1996:336542  CAPLUS
DN   124:345369
ED   Entered STN:  11 Jun 1996
TI   Pulsed radiation and reactive   ***gas***   stream for cleaning of
     critical surfaces in manufacture of compact disks
IN   Elliott, David J.; Hollman, Richard F.; Yans, Francis M.; Singer, Daniel
     K.
PA   Uvtech Systems, Inc., USA
SO   PCT Int. Appl., 26 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  B08B003-08
     ICS  B08B003-10; B08B003-12; B08B007-00; B08B007-02; B44C001-22;
          C03C015-00; C03C025-06
CC   38-1 (Plastics Fabrication and Uses)
     Section cross-reference(s): 56
FAN.CNT 4
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   WO 9606693           A1    19960307    WO 1995-US10929        19950829
         W:  AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,
             GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD,
             MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,
             TM, TT
         RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT,
             LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE,
             SN, TD, TG
     AU 9533741           A1    19960322    AU 1995-33741          19950829
     US 5669979           A     19970923    US 1996-697018         19960816
PRAI US 1994-298023       A     19940829
     US 1995-391517       A     19950221
     US 1993-118806       B2    19930908
     WO 1995-US10929      W     19950829
     US 1995-532992       B1    19950925
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 WO 9606693      ICM    B08B003-08
                 ICS    B08B003-10; B08B003-12; B08B007-00; B08B007-02;
                        B44C001-22; C03C015-00; C03C025-06
 WO 9606693      ECLA   B08B007/00S2; B23K026/06F; B23K026/073B; B23K026/073H;
                        B23K026/12; B23K026/14; G02F001/1333; G03F007/42;
                        G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/48C4H; H05K003/26
 AU 9533741      ECLA   B08B007/00S2; B23K026/06F; B23K026/073B; B23K026/073H;
                        B23K026/12; B23K026/14; G02F001/1333; G03F007/42;
                        G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/48C4H; H05K003/26
 US 5669979      NCL    134/001.000; 134/001.100; 134/001.200; 134/001.300;
                        257/E21.226; 257/E21.227; 257/E21.256
                 ECLA   B08B007/00S2; B23K026/073B; B23K026/073H; B23K026/12;
                        G03F007/42; G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/311C2B
AB   In the title process, contaminants such as Ag,   ***NiO***  , photoresist
     residues, and polycarbonate residues are removed from crit. surfaces of
     compact disk masters, glass plates, Ni stampers, etc., by scanning with
     pulsed radiation (e.g., from an excimer laser) in the presence of a
       ***gas***   stream contg. a reactive component such as O, H, a halogen
     compd., etc.  The process converts contaminants to gaseous products.
ST   polycarbonate compact disk manuf cleaning; nickel stamper compact disk
     manuf cleaner; photoresist removal cleaner compact disk;   ***laser***
     radiation cleaning compact   ***disk***   manuf; oxygen   ***laser***
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radiation cleaning compact ***disk*** ; hydrogen ***laser***
cleaning compact ***disk*** manuf; excimer ***laser*** cleaning
compact ***disk***

IT Laser radiation
Ultraviolet radiation
(cleaning of crit. surfaces in compact disk manuf. by reactive ***gas*** stream in presence of)

IT Cleaning
(radiation and reactive ***gas*** stream for cleaning of crit. surfaces in manuf. of compact disks)

IT Polycarbonates, processes
RL: MSC (Miscellaneous); PEP (Physical, engineering or chemical process); PROC (Process)
(removal from surfaces by cleaning process useful in manuf. of compact disks)

IT Recording apparatus
(compact disks, radiation and reactive ***gas*** stream for cleaning of crit. surfaces in manuf. of)

IT Memory devices
( ***optical*** ***disks*** , read-only, radiation and reactive ***gas*** stream for cleaning of crit. surfaces in manuf. of)

IT Resists
(photo-, removal from surfaces by cleaning process useful in manuf. of compact disks)

IT Acoustic devices
(records, compact, radiation and reactive ***gas*** stream for cleaning of crit. surfaces in manuf. of)

IT 1333-74-0, Hydrogen, uses 7782-44-7, Oxygen, uses 10028-15-6, Ozone, uses
RL: MSC (Miscellaneous); NUU (Other use, unclassified); USES (Uses)
(cleaning of crit. surfaces in manuf. of compact disks by irradn. in presence of ***gas*** contg.)

IT 1313-99-1, ***Nickel*** ***oxide*** , processes 7440-02-0, Nickel, processes 7440-22-4, Silver, processes
RL: MSC (Miscellaneous); PEP (Physical, engineering or chemical process); PROC (Process)
(removal from surfaces by cleaning process useful in manuf. of compact disks)

L9 ANSWER 20 OF 27 CAPLUS 

AN 1994:667576 CAPLUS

DN 121:267576

ED Entered STN: 26 Nov 1994

TI A thin film of an Ni- ***NiO*** heterogeneous system for an ***optical*** recording ***medium***

AU Iida, Atsuko; Nishikawa, Reiji

CS Res. Development Center, TOSHIBA Corp., Kawasaki, 210, Japan

SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1994), 33(7A), 3952-9
CODEN: JAPNDE; ISSN: 0021-4922

DT Journal

LA English

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

AB The authors have found a ***write*** ***once*** read many ( ***WORM*** ) type new ***optical*** recording ***medium*** of an Ni- ***NiO*** heterogeneous system thin film. The structure of the recording medium is a single layer Ni- ***NiO*** heterogeneous thin film on a transparent resin substrate. Irradn. of a converged laser diode beam causes a vol. expansion of the film to form a swell. Information reading is done by using its redn. in reflectivity. The recordable compn. region of this film is considered to be the transitive region from the metal to the oxide. The vol. expansion is assumed to be induced by the oxidn. of the Ni- ***NiO*** heterogeneous thin film and the height of the swell is estd. This value agrees well with the measured top height of the swell.

ST ***optical*** recording ***medium*** ***nickel*** ***nickel*** ***oxide***

IT Recording materials
(optical, ***write*** ***once*** read many; thin film of an Ni- ***NiO*** heterogeneous system for an ***optical*** recording ***medium*** )

```
IT    1313-99-1,   ***Nickel***    ***oxide***    ***nio***  , uses
      7440-02-0, Nickel, uses   12359-17-0,   ***Nickel***    ***oxide***
      (Ni2O)   158802-77-8,   ***Nickel***    ***oxide***   (  ***NiO0***
      .45-0.6)
      RL: DEV (Device component use); USES (Uses)
         (thin film of an Ni-  ***NiO***  heterogeneous system for an
          ***optical***   recording   ***medium***  )

L9    ANSWER 21 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN    1994:283116  CAPLUS
DN    120:283116
ED    Entered STN:  28 May 1994
TI    Apparatus for electroforming of stampers for   ***optical***
        ***disks***
IN    Arai, Tooru
PA    Nippon Electric Co, Japan
SO    Jpn. Kokai Tokkyo Koho, 4 pp.
      CODEN: JKXXAF
DT    Patent
LA    Japanese
IC    ICM  C25D001-00
      ICS  C25D001-00; G11B007-26
CC    72-8 (Electrochemistry)
      Section cross-reference(s): 74
FAN.CNT 1
      PATENT NO.           KIND   DATE        APPLICATION NO.        DATE
      ---------------      ----   --------    --------------------   --------
PI    JP 05320973           A2    19931207    JP 1992-152912         19920520
      JP 2870301            B2    19990317
PRAI JP 1992-152912               19920520
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  -----------------------------------------------
 JP 05320973     ICM    C25D001-00
                 ICS    C25D001-00; G11B007-26
AB    The app. comprises a cathode which also serves as a holder for a sample to
      be electroformed, a shaft attached to the cathode which can be rotated
      during electroforming, Ni pellets which serve as an anode and supplies Ni
      ions to the electroforming soln., a spraying tube to supplying O2
        ***gas***   to the surface of the sample to be electroformed in the
      electroforming soln. in oxidn. treatment, and a tube to supply O2
        ***gas***   to the spraying tube.  The formation of Ni oxide and Ni layers
      can be conducted successively and it does not need to use dangerous
      chromate.
ST    electroforming app   ***optical***    ***disk***   stamper;
        ***nickel***   electroforming   ***oxide***   formation
IT    Electrodeposition and Electroplating
         (electroforming, of nickel, in manuf. of stampers for   ***optical***
           ***disks***  )
IT    Recording apparatus
         (  ***optical***     ***disks***  , stampers for, manuf. of, nickel
         electroforming in)
IT    7440-02-0
      RL: USES (Uses)
         (electrodeposition and Electroplating, electroforming, of nickel, in
         manuf. of stampers for   ***optical***     ***disks***  )
IT    7440-02-0, Nickel, uses
      RL: USES (Uses)
         (electroforming of, in manuf. of stampers for   ***optical***
           ***disks***  )
IT    1313-99-1P,   ***Nickel***     ***oxide***   (  ***NiO***  ), preparation
      RL: FORM (Formation, nonpreparative); PREP (Preparation)
         (formation of, in electroforming of nickel for manuf. of stampers for
           ***optical***     ***disks***  )

L9    ANSWER 22 OF 27  CAPLUS  COPYRIGHT 2005 ACS on STN
AN    1991:500804  CAPLUS
DN    115:100804
ED    Entered STN:  06 Sep 1991
TI    Photon production in heavy-ion collisions and nuclear equation of state
AU    Dao Tien Khoa; Ohtsuka, N.; Huang, S. W.; Ismail, M.; Faessler, Amand; El
      Shabshiry, M.; Aichelin, J.
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CS Inst. Theor. Phys., Univ. Tuebingen, Tuebingen, D-7400, Germany
SO Nuclear Physics A (1991), A529(2), 363-86
CODEN: NUPABL; ISSN: 0375-9474
DT Journal
LA English
CC 70-1 (Nuclear Phenomena)
AB Photon-prodn. cross sections in 12C + 12C, 40Ca + 40Ca and 93Nb + 93Nb collisions at Elab = 84 and 200 MeV/A are calcd. within the framework of the quantum mol. dynamics approach. The sensitivity of the photon-prodn. cross section to the different types of nuclear equation of state and the momentum dependence in the in-medium NN interaction is studied in detail. Although some difference is found between the soft and hard equation of state in the calcd. photon-prodn. cross section, it is suppressed strongly by the momentum dependence in the interaction. There is a sizeable difference between the results calcd. with or without taking into account the momentum dependence in the in-medium interaction. The time dependence of the prodn. of the high-energy photons arising from incoherent pn collisions is also studied. The heavier the masses of colliding nuclei, the more no. of energetic photons are produced after the system reaches the max. d., at the expansion stage. Therefore, the photon-prodn. data for heavy colliding nuclei might provide some ***information*** on the in- ***medium*** NN interaction during the time ***evolution*** of the heavy-ion reaction.
ST equation state nuclear; gamma heavy ion reaction; carbon 12 reaction gamma; calcium 40 reaction gamma; ***niobium*** 90 reaction gamma
IT Gamma ray
Photon
(from heavy-ion reactions)
IT Heavy-ion beams
(reactions of, photon prodn. in)
IT Equation of state
(nuclear, for photon prodn. in heavy-ion reactions)
IT 7440-44-0, Carbon, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bombardment of carbon-12, by carbon-12, photon prodn. in)
IT 7440-03-1, ***Niobium*** , reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bombardment of ***niobium*** -93, by ***niobium*** -93, photon prodn. in)
IT 14092-94-5, Calcium-40, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(bombardment of, by calcium-40, photon prodn. in)

L9 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:207286 CAPLUS
DN 112:207286
ED Entered STN: 26 May 1990
TI Doped lithium ***niobate*** helium-neon phase conjugate laser
AU Liu, Jinsong; Wu, Zhongkang; Xu, Yuheng
CS Dep. Tech. Phys., Xian Univ. Electron Sci. Technol., Xian, 710071, Peop. Rep. China
SO Hongwai Yanjiu, A-ji (1990), 9(1), 63-6
CODEN: HYAAED; ISSN: 0258-7114
DT Journal
LA Chinese
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
AB An externally-pumped phase conjugate laser was constructed with a doped LiNbO3 single-crystal as phase conjugate mirror with a He-Ne ***gas*** as ***laser*** gain ***medium*** . The continuous-wave self-oscillation in a LiNbO3 phase conjugate laser at 632.8 nm was obsd. for the 1st time.
ST lithium ***niobate*** phase conjugate mirror laser; helium neon phase conjugate laser
IT Lasers
(helium-neon, lithium ***niobate*** phase-conjugate)
IT Mirrors
(phase-conjugate iron-doped ***niobate*** , in helium-neon laser)
IT Optical nonlinear property
(phase conjugation, in mirror of helium-neon laser)
IT 7440-01-9 7440-59-7
RL: DEV (Device component use); USES (Uses)

(lasers, helium-neon, lithium ***niobate*** phase-conjugate)
IT 12031-63-9, Lithium ***niobate*** ($LiNbO_3$)
RL: USES (Uses)
(phase conjugate helium-neon laser with mirror from iron-doped)
IT 7439-89-6, Iron, uses and miscellaneous
RL: USES (Uses)
(phase conjugate mirror from lithium ***niobate*** doped with, in helium-neon laser)

L9 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:183061 CAPLUS
DN 110:183061
ED Entered STN: 12 May 1989
TI ***Laser*** recording ***medium*** containing metal oxide film and oxygen-providing oxide film
IN Iida, Atsuko
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 63158292 | A2 | 19880701 | JP 1986-305188 | 19861223 |
| PRAI | JP 1986-305188 | | 19861223 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 63158292 | ICM | B41M005-26 |
| | ICS | G11B007-24 |

AB The recording medium contains a metal oxide film of a metal in its low oxidn. state that changes its optical d. on irradn. with a laser beam and a transparent O-providing oxide film. A polycarbonate film may be coated consecutively with a ***dark*** brown colored Ni oxide film in which Ni is in a low oxidn. state, a colorless transparent BaO film deposited in an atm. of Ar and $O_2$, a colorless transparent BaO film deposited in an atm. of Ar, and a polycarbonate covering film to give the recording medium. The ***dark*** brown colored Ni oxide film shows 10% transmittance to a laser beam having the wavelength 780 nm. After recording with a 780 nm laser beam the irradiated area shows 78% transmittance.
ST laser recording metal oxide film
IT Oxides, uses and miscellaneous
RL: USES (Uses)
(films, for laser recording materials)
IT Recording materials
(optical, metal oxide films for)
IT 1304-28-5, Barium oxide, uses and miscellaneous 11099-02-8, ***Nickel*** ***oxide***
RL: USES (Uses)
(film, for laser recording material)

L9 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:143923 CAPLUS
DN 110:143923
ED Entered STN: 15 Apr 1989
TI Effective medium treatment of multicomponent metal-dielectric systems
AU Kumar, S. N.
CS Lab. Phys. Matiere, INSA Lyon, Villeurbanne, 69621, Fr.
SO Solid State Communications (1989), 69(1), 107-11
CODEN: SSCOA4; ISSN: 0038-1098
DT Journal
LA English
CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
AB An effective ***medium*** treatment of the ***optical***

properties of multicomponent metal-dielec. systems is presented by a straightfoward extension of the 2-component effective medium theories. First, a metal-dielec. pair is treated by one of the effective medium theories; the computed dielec. functions thus obtained are subsequently step-by-step treated with the remaining metal or dielec. components by appropriate effective medium theories. Model calcns. performed on an exptl. well characterized 3-component metal-dielec. system of electroless-deposited ***black*** Ni composite films showed that the validity of a particular set of combination depends upon the microstructural compn. of the film and the vol. fractions of the metal and the modelled dielec. A good agreement between the exptl. and theor. reflectance spectra was obtained by a 2-step computation of the effective dielec. functions using the theories of J. C. Maxwell-Garnett (1907 and 1906) and D. A. G. Bruggeman (1935).

ST reflection composite metal dielec; zinc ***nickel*** ***oxide*** composite reflection

IT Optical property
(of metal-dielec. multicomponent systems)

IT Metals, properties
RL: PRP (Properties)
(optical properties of multicomponent systems contg. dielecs. and)

IT Electric insulators and Dielectrics
(optical properties of multicomponent systems contg. metals and)

IT Infrared spectra
Ultraviolet and visible spectra
(reflection, of zinc- ***nickel*** - ***nickel*** ***oxide*** composite systems)

IT 1313-99-1, Nickel monoxide, properties
RL: PRP (Properties)
(optical properties of multicomponent system contg. zinc and nickel and)

IT 7440-02-0, Nickel, properties
RL: PRP (Properties)
(optical properties of multicomponent system contg. zinc and ***nickel*** ***oxide*** and)

IT 7440-66-6, Zinc, properties
RL: PRP (Properties)
(optical properties of multicomponent systems contg. ***nickel*** and ***nickel*** ***oxide*** and)

L9 ANSWER 26 OF 27 CAPLUS 

AN 1983:413676 CAPLUS

DN 99:13676

ED Entered STN: 12 May 1984

TI Laser-pulsed plasma chemistry: surface oxidation of ***niobium***

AU Marks, R. F.; Pollak, R. A.; Avouris, P.

CS T. J. Watson Res. Cent., IBM, Yorktown Heights, NY, 10598, USA

SO Materials Research Society Symposium Proceedings (1983), 17(Laser Diagn. Photochem. Process. Semicond. Devices), 257-64
CODEN: MRSPDH; ISSN: 0272-9172

DT Journal

LA English

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 66

AB Laser irradn. of a solid surface under an oxidizing ambient ***gas*** can activate localized, heterogeneous chem. reactions which modify the surface. Under suitable conditions, the laser initiates a reactive plasma near the ***gas*** /solid interface. This plasma mechanism is suggested as the basis for a new surface chem. technique which is denoted laser-pulsed plasma chem. (LPPC). LPPC expts. on Nb metal under 1 atm of O with a pulsed CO2 laser displayed single-pulse, self-limiting, oxide growth. Product oxide thickness increased with optical intensity. Surface layer thickness and chem. compn. were detd. for oxide layers between 1 and 5 nm thick using XPS. Compn. of these Nb oxide (Nb2O5-.delta.) surfaces was similar to the compn. produced by RF plasma oxidn., but the valence defect, .delta., for LPPC oxides was approx. 2 to 5 times lower. At high laser intensity (.gtorsim.4 .times. 106 W/cm2), direct ***optical*** heating or plasma- ***mediated*** thermal coupling to the solid activates interdiffusion at the oxide/metal interface.

ST laser pulsed plasma chem ***niobium*** ; oxidn ***niobium*** laser

plasma chem
IT Laser radiation, chemical and physical effects
(in surface oxidn. study of ***niobium*** )
IT Plasma
(laser-pulsed plasma chem., in surface reaction studies)
IT Oxidation
(of ***niobium*** by oxygen, laser pulse plasma chem. in study of)
IT Surface
(redn. at, laser pulse plasma chem. in study of)
IT Anodization
(plasma, of ***niobium*** , in laser-induced oxygen plasma)
IT Photoelectric emission
(x-ray, of ***niobium*** oxide produced in surface oxidn. in ***niobium*** )
IT 1313-96-8D, oxygen-deficient
RL: PRP (Properties)
(XPS of, in surface oxidn. of ***niobium*** )
IT 7782-44-7, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. by, of ***niobium*** surface, laser pulsed plasma chem. in study of)
IT 7440-03-1, reactions
RL: PRP (Properties)
(oxidn. of surface of, laser pulse plasma chem. in study of)

L9 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:155241 CAPLUS
DN 92:155241
ED Entered STN: 12 May 1984
TI Structure and optical properties of evaporated films of the chromium- and vanadium-group metals
AU Nestell, J. E., Jr.; Christy, R. W.; Cohen, Mitchell H.; Ruben, G. C.
CS Dartmouth Coll., Hanover, NH, 03755, USA
SO Journal of Applied Physics (1980), 51(1), 655-60
CODEN: JAPIAU; ISSN: 0021-8979
DT Journal
LA English
CC 73-2 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
Section cross-reference(s): 75
AB Thin films of Cr, Mo, and W rapidly evapd. in high vacuum (5 .times. 10-7 torr) onto room-temp. substrates show anomalously low reflectance (compared to bulk samples). Electron and x-ray diffraction and electron microscopy show the normal bcc. crystal structure, but with very fine grains. Columnar grains .apprx.100 .ANG. in diam. were sepd. by a less dense grain-boundary network .apprxeq. 10 .ANG. wide. The measured ***optical*** cond. agrees with an inhomogeneous- ***medium*** model that assumes the normal cryst. cond. for the grain interiors, with model parameters that correlate to the obsd. columnar grain size. In contrast, V and Nb films rapidly evapd. onto room-temp. substrates have the reflectance of bulk cryst. material. On liq.-N temp. substrates, however, V and Nb have normal bcc. crystal structure but with small flat-plate grains, and the same model, with appropriate parameters, accounts for the optical cond. The difference between these 2 groups apparently depends on residual ***gases*** segregated at the grain boundaries in the Cr-group films.
ST structure transition metal evapd film; cond optical transition metal film; reflectance transition metal film; chromium evapd film structure optical; molybdenum evapd film structure optical; tungsten evapd film structure optical; vanadium evapd film structure optical; ***niobium*** evapd film structure optical
IT Crystal structure
Optical conductivity
Optical reflection
(of chromium- and vanadium-group evapd. films)
IT 7439-98-7, properties 7440-03-1, properties 7440-33-7, properties
7440-47-3, properties 7440-62-2, properties
RL: PRP (Properties)
(structure and optical properties of evapd. films of)

=> s l8 and (black or dark? or oxidiz6 or gas or evolution or black or WORM or (write(5a)(once or

```
        241104 BLACK
          5686 BLACKS
        242233 BLACK
                 (BLACK OR BLACKS)
        182585 DARK?
             0 OXIDIZ6
       1451051 GAS
        494167 GASES
       1627674 GAS
                 (GAS OR GASES)
        325558 EVOLUTION
          3234 EVOLUTIONS
        327625 EVOLUTION
                 (EVOLUTION OR EVOLUTIONS)
        241104 BLACK
          5686 BLACKS
        242233 BLACK
                 (BLACK OR BLACKS)
         11569 WORM
          7981 WORMS
         17213 WORM
                 (WORM OR WORMS)
          9293 WRITE
           816 WRITES
          9985 WRITE
                 (WRITE OR WRITES)
         95215 ONCE
             5 ONCES
         95220 ONCE
                 (ONCE OR ONCES)
       2061819 ONLY
           750 WRITE(5A)(ONCE OR ONLY)
L10         28 L8 AND (BLACK OR DARK? OR OXIDIZ6 OR GAS OR EVOLUTION OR BLACK
               OR WORM OR (WRITE(5A)(ONCE OR ONLY)))

=> s l10 not l9
L11          1 L10 NOT L9

=> d all

L11  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1990:596465  CAPLUS
DN   113:196465
ED   Entered STN:  23 Nov 1990
TI   High energy sensitive photochromic glass articles and their preparation
IN   Wu, Che Kuang
PA   Canyon Materials Research and Engineering, USA
SO   PCT Int. Appl., 167 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  C03C015-00
CC   57-1 (Ceramics)
     Section cross-reference(s): 74, 76
FAN.CNT 3
     PATENT NO.          KIND   DATE          APPLICATION NO.         DATE
     ---------------     ----   --------      --------------------    --------
PI   WO 9009356           A1    19900823      WO 1990-US368           19900116
         W:  DE, JP, KR
         RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE
     US 5078771           A     19920107      US 1989-436418          19891114
     KR 120740            B1    19971027      KR 1990-72222           19901008
PRAI US 1989-308187       A     19890207
     US 1989-436418       A     19891114
     US 1983-507681       A2    19830624
     US 1984-619809       A3    19840624
     US 1987-57349        A2    19870601
     WO 1990-US368        W     19900116
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------
 WO 9009356      ICM    C03C015-00
```

```
 US 5078771      NCL    065/030.110; 065/030.120; 065/030.130; 065/031.000;
                        065/032.500; 428/410.000; 428/913.000; 501/013.000;
                        501/056.000
AB    High energy beam-sensitive glass articles exhibiting insensitivity and/or
      inertness to actinic radiation, i.e., glass articles which are
        ***darkened***   and/or colored within a thin surface layer of
      .apprx.0.1-3 .mu.m upon exposure to a high energy beam, electron beam, and
      ion beams, without a subsequent development step and which need no fixing
      to stabilize the colored image are prepd.  The process comprises prepg. a
      parent glass article having glass compn. comprising alkali metal oxides,
      oxides of transition metal having 1-4 d-electrons in an at. state as
      photosensitivity inhibitor, and halide, contacting the surface of the
      glass article with a silver ion-contg. material, heating the glass article
      together with the silver ion-contg. material in contact therewith to a
      temp. sufficient to effect ion-exchange reactions and form an integral
      ion-exchange surface layer on the body portion of the glass article which
      has not undergone ion-exchange reactions, and cooling the glass article to
      room temp. either in contact or out of contact with the silver ion-contg.
      material.
ST    photochromic glass high energy sensitivity; photosensitivity inhibitor
      transition metal oxide; silver ion exchange photochromic glass; actinic
      radiation insensitivity photochromic glass
IT    Optical imaging devices
      Recording materials
      Semiconductor materials
         (glass for, photochromic, manuf. of high energy beam-sensitive)
IT    Glass, oxide
      RL: SPN (Synthetic preparation); PREP (Preparation)
         (photochromic, sodium zinc silicate, silver-ion exchanged, prepn. of,
         with high energy beam sensitivity, for recording storage   ***media***
         and   ***optical***   imaging devices)
IT    1309-48-4, Magnesium oxide (MgO), uses and miscellaneous   1314-13-2, Zinc
      oxide, uses and miscellaneous   1314-56-3, Phosphorus pentoxide, uses and
      miscellaneous   12057-24-8, Lithium oxide, uses and miscellaneous
      16984-48-8, Fluoride, uses and miscellaneous   18088-11-4, Rubidium oxide
      20281-00-9, Cesium oxide   20461-54-5, Iodide, uses and miscellaneous
      24959-67-9, Bromide, uses and miscellaneous
      RL: USES (Uses)
         (glass contg., photochromic, high energy beam-sensitive, manuf. of)
IT    7440-22-4D, Silver, ions, uses and miscellaneous
      RL: USES (Uses)
         (glass surface exchanged with, photochromic, high energy
         beam-sensitive)
IT    1312-81-8, Lanthanum oxide (La2O3)   1313-96-8,   ***Niobium***
      pentoxide   1314-23-4, Zirconia, uses and miscellaneous   1314-35-8,
      Tungsten oxide (WO3), uses and miscellaneous   1314-36-9, Yttrium
      trioxide, uses and miscellaneous   1314-61-0, Tantalum pentoxide
      13463-67-7, TItania, uses and miscellaneous
      RL: USES (Uses)
         (photosensitivity inhibitor, in high energy beam-sensitive photochromic
         glass prepn.)


=> s l8 and (hole or ablat6 or open6 or pit)
6 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l8 and (hole or ablat6 or open? or pit)
         186099 HOLE
         109260 HOLES
         249808 HOLE
                  (HOLE OR HOLES)
              0 ABLAT6
         430887 OPEN?
          19776 PIT
          16966 PITS
          31850 PIT
                  (PIT OR PITS)
L12          10 L8 AND (HOLE OR ABLAT6 OR OPEN? OR PIT)
```

```
=> d 1-10 all

L12  ANSWER 1 OF 10  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2001:302137  CAPLUS
DN   135:114396
ED   Entered STN:  29 Apr 2001
TI   High-density read-only memory disc with super resolution reflective layer
AU   Kikukawa, Takashi; Kato, Tatsuya; Shingai, Hiroshi; Utsunomiya, Hajime
CS   Data Storage Technology Center, TDK Chikumagawa the 1st. Technical Center,
     TDK Corporation, Nagano, 385-0009, Japan
SO   Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes &
     Review Papers (2001), 40(3B), 1624-1628
     CODEN: JAPNDE; ISSN: 0021-4922
PB   Japan Society of Applied Physics
DT   Journal
LA   English
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
     Section cross-reference(s): 73
AB   The authors report that super-resoln. readout occurred in read-only memory
     (ROM) disks with very simple materials and structure.  By adopting a
     15-nm-thick layer of Ge, Si, Mo, and W as a reflective layer, a
     carrier-to-noise ratio over 40 dB could be obtained from small
       ***pits***   which were below the resoln. limit of optical system.  Exptl.
     and thermal simulation results showed that the super resoln. readout
     phenomenon in the disks is strongly correlated to the film temps. that are
     reached when a laser spot is irradiated on the films.  Signal
     characterizations suggest that the super resoln. readout mechanism of the
     disks is different from those of conventional ROM and conventional
     super-resoln. ROM disks.  The authors have named them Super-ROM disks.
ST   read only memory   ***disk***    ***optical***   super resoln reflection;
     temp   ***optical***   reflection read only memory   ***disk***   super
     resoln
IT     ***Optical***   ROM   ***disks***
     Optical reflection
     Thermooptical effect
        (high-d. read-only memory disk with super resoln. reflective layer)
IT   Metals, properties
     RL: DEV (Device component use); PRP (Properties); USES (Uses)
        (reflective layer; high-d. read-only memory disk with super resoln.
        reflective layer)
IT   Polycarbonates, uses
     RL: DEV (Device component use); USES (Uses)
        (substrate; high-d. read-only memory disk with super resoln. reflective
        layer)
IT   12033-89-5, silicon nitride si3n4, uses
     RL: DEV (Device component use); USES (Uses)
        (high-d. read-only memory disk with super resoln. reflective layer)
IT   7429-90-5, Aluminum, properties   7439-89-6, Iron, properties   7439-96-5,
     Manganese, properties   7439-98-7, Molybdenum, properties   7440-02-0,
     Nickel, properties   7440-03-1,   ***Niobium***  , properties   7440-05-3,
     Palladium, properties   7440-06-4, Platinum, properties   7440-21-3,
     Silicon, properties   7440-22-4, Silver, properties   7440-25-7, Tantalum,
     properties   7440-31-5, Tin, properties   7440-32-6, Titanium, properties
     7440-33-7, Tungsten, properties   7440-44-0, Carbon, properties
     7440-47-3, Chromium, properties   7440-48-4, Cobalt, properties
     7440-50-8, Copper, properties   7440-56-4, Germanium, properties
     7440-57-5, Gold, properties   7440-62-2, Vanadium, properties   7440-66-6,
     Zinc, properties   7440-67-7, Zirconium, properties   7440-69-9, Bismuth,
     properties   7440-74-6, Indium, properties   13494-80-9, Tellurium,
     properties
     RL: DEV (Device component use); PRP (Properties); USES (Uses)
        (reflective layer; high-d. read-only memory disk with super resoln.
        reflective layer)
IT   7727-37-9, Nitrogen, processes
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (sputtering gas mixt. component; high-d. read-only memory disk with
        super resoln. reflective layer)
RE.CNT  9     THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
```

(1) Ariyoshi, T; Jpn J Appl Phys 2000, V39, P4013 CAPLUS
(2) Bouwhuis, G; Appl Opt 1990, V29, P3766

(3) Hatakeyama, M; Jpn J Appl Phys 2000, V39, P752 CAPLUS
(4) Kasami, Y; Jpn J Appl Phys 2000, V39, P756 CAPLUS
(5) Liu, J; Jpn J Appl Phys 1999, V38, P1661 CAPLUS
(6) Nagata, K; Jpn J Appl Phys 1999, V38, P1679 CAPLUS
(7) Shintani, T; Jpn J Appl Phys 1999, V38, P1656 CAPLUS
(8) Tieke, B; Jpn J Appl Phys 2000, V39, P762 CAPLUS
(9) Tominaga, J; Appl Phys Lett 1998, V73, P2078 CAPLUS

L12 ANSWER 2 OF 10 CAPLUS 
AN 1998:331493 CAPLUS
DN 129:21554
ED Entered STN: 03 Jun 1998
TI Stamper for producing recording medium
IN Umebayashi, Nobuhiro; Obara, Hiroshi; Ishihama, Hiroshi; Kojima, Yoshitaka; Nakashima, Shoichi; Yamaguchi, Shizuka
PA Hitaci Maxell, Ltd., Japan; Hitachi, Ltd.
SO U.S., 19 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM B29C033-38
ICS B32B003-00
INCL 425385000
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 77
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5756130 | A | 19980526 | US 1994-247220 | 19940517 |
| PRAI | JP 1993-118519 | A | 19930520 | | |
| | JP 1993-176897 | A | 19930716 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| US 5756130 | ICM | B29C033-38 |
| | ICS | B32B003-00 |
| | INCL | 425385000 |
| US 5756130 | NCL | 425/385.000; 249/114.100; 249/116.000; 425/403.000; 425/810.000; 428/469.000; 428/472.000; 428/622.000; 428/629.000 |
| | ECLA | B29C033/38M; B29C033/42B; C23C028/00; G11B005/84; G11B005/84B; G11B007/26P |

AB There are provided a stamper for producing a recording medium exhibiting excellent durability and capable of stably forming projections and ***pits*** and a method of producing the stamper. For the stamper for producing a recording medium comprises projections and ***pits*** in a predetd. pattern on the surface thereof, the value of tan .theta.-1 obtainable from an enlargement angle .theta. of an output from a cartridge with respect to an enlargement of an output denoting a load measured by a test of scratching the surface having the projections and ***pits*** under conditions that the diam. of the stylus is 100 .mu.m and the loading speed is 1 .mu.m/s is 1.3 or more.
ST stamper ***optical*** recording ***disk*** ; magnetic recording disk stamper
IT Magnetic disks
***Optical*** ***disks***
(stampers for prodn. of)
IT Apparatus
(stamps; for producing magnetic and ***optical*** ***disks*** )
IT 11099-02-8, ***Nickel*** ***oxide*** 12738-11-3, Nickel nitride 13463-67-7, Titanium dioxide, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(stampers for magnetic and ***optical*** ***disk*** prodn. contg.)
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Akino; US 4793792 1988
(2) Anon; JP 50-23453 1975 CAPLUS
(3) Aoki; US 4953385 1990
(4) Baumgartner; US 5388803 1995

(5) Baumgartner; US 5431367 1995 CAPLUS
(6) Feldstein; US 3962495 1976 CAPLUS
(7) Imataki; US 5234633 1993
(8) Imataki; US 5489082 1996
(9) Kim; US 5176839 1993
(10) McCandless; US 4753414 1988
(11) Nyman; US 4262875 1981
(12) Okazaki; US 4723903 1988
(13) Schulz; US 5246787 1993

L12 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:38817 CAPLUS
DN 128:95416
ED Entered STN: 23 Jan 1998
TI ***Optical*** ***disk*** stamper and its manufacture
IN Inoue, Daisuke; Nogawa, Shuichi
PA Nissin Electric Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C23C014-46
ICS C23C014-46; G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73, 75
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 10008248 | A2 | 19980113 | JP 1996-175678 | 19960614 |
| PRAI | JP 1996-175678 | | 19960614 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 10008248 | ICM | C23C014-46 |
| | ICS | C23C014-46; G11B007-26 |

AB The stamper is manufd. by (1) coating a resin-based resist film on a substrate surface, (2) forming a ***pit*** or a groove on the film, and (3) ion-beam sputtering a Ni target under vacuum to form a Ni film thereon. The stamper contains a Ni- and N- or O-contg. compd. layer on the Ni film. The stamper shows good mold-releasability from the disk without surface-polishing.
ST stamper ***optical*** ***disk*** nickel film sputtering; mold releasability ***optical*** ***disk*** stamper
IT Ion beam sputtering
***Optical*** ***disks***
(ion-beam sputtering of Ni film for ***optical*** ***disk*** stamper with good mold-releasability)
IT 7440-02-0P, Nickel, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(ion-beam sputtering of Ni film for ***optical*** ***disk*** stamper with good mold-releasability)
IT 11099-02-8D, ***Nickel*** ***oxide*** , nonstoichiometric
12738-11-3D, Nickel nitride, nonstoichiometric
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(ion-beam sputtering of Ni film for ***optical*** ***disk*** stamper with good mold-releasability)

L12 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:664267 CAPLUS
DN 128:35742
ED Entered STN: 18 Oct 1997
TI Optical materials and components consisting of hydrogenated ring- ***opening*** norbornene polymers
IN Tada, Mitsuru; Hosaka, Susumu; Murakami, Toshihide; Obara, Teiji
PA Nippon Zeon Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

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IC   ICM  C08G061-08
     ICS  C08L065-00; G02B001-04
CC   38-3 (Plastics Fabrication and Uses)
     Section cross-reference(s): 73
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.        DATE
     ---------------      ----   --------    --------------------   --------
PI   JP 09263627           A2    19971007    JP 1996-77276          19960329
     JP 3465807            B2    20031110
PRAI JP 1996-77276               19960329
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------    -----  ----------------------------------------------------
 JP 09263627      ICM    C08G061-08
                  ICS    C08L065-00; G02B001-04
GI
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/ Structure 1 in file .gra /

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AB   The materials and components comprise hydrogenated ring-  ***opening***
     polymers of polycyclic norbornene-based monomers contg. .gtoreq.70% I (the
     ring A may have .gtoreq.1 double bond), which show no.-av. mol. wt. (Mn)
     12,000 (based on polyisoprene) and hydrogenation degree of double bonds in
     main chain and A .gtoreq.98 and .gtoreq.90%, resp.  Thus,
     1,4-methano-1,4,4a,9a-tetrahydrofluorene 300, 1-hexene 1.1, 0.3% W
     chloride PhMe soln. 11, and Bu4Sn 0.6 part were treated at 60.degree. for
     1 h to give a polymer with Mn 17,700 and mol.-wt. distribution 2.0, 240
     parts of which was hydrogenated at 230.degree. for 5 h in the presence of
     Ni and   ***NiO***   to give a hydrogenated polymer with Mn 22,600, and
     hydrogenation degree in the main chain and in the arom. ring .gtoreq.99.9
     and 99.8%, resp.  An injection-molded   ***optical***     ***disk***
     from the polymer showed low water absorption and birefringence, high light
     transmittance, and good oil, solvent, chem. resistances.
ST   optical hydrogenated norbornene ring   ***opening***   polymer; waveguide
     optical norbornene hydrogenated polymer; diffuser optical norbornene
     hydrogenated polymer; condenser optical norbornene hydrogenated polymer;
     lens ring   ***opening***   hydrogenated norbornene polymer
IT   Optical instruments
        (diffusers; optical materials and components consisting of hydrogenated
        ring-  ***opening***   norbornene polymers)
IT   Styrene-butadiene rubber, uses
     RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
     engineered material use); USES (Uses)
        (hydrogenated, block, triblock, Tuftec H 1051D; optical materials and
        components consisting of hydrogenated ring-  ***opening***   norbornene
        polymers)
IT   Chemically resistant materials
     Lenses
     Oil-resistant materials
     Optical materials
     Optical waveguides
     Solvent-resistant materials
     Transparent materials
        (optical materials and components consisting of hydrogenated ring-
          ***opening***   norbornene polymers)
IT   Polymerization
        (ring-  ***opening***  ; optical materials and components consisting of
        hydrogenated ring-  ***opening***   norbornene polymers)
IT   164149-71-7DP, hydrogenated
     RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
     (Properties); TEM (Technical or engineered material use); PREP
     (Preparation); USES (Uses)
        (optical materials and components consisting of hydrogenated ring-
          ***opening***   norbornene polymers)
IT   106107-54-4   694491-73-1
     RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
     engineered material use); USES (Uses)
        (styrene-butadiene rubber, hydrogenated, block, triblock, Tuftec H
        1051D; optical materials and components consisting of hydrogenated
        ring-  ***opening***   norbornene polymers)
```

L12 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:542391 CAPLUS
DN 113:142391
ED Entered STN: 13 Oct 1990
TI ***Optical*** recording ***medium***
IN Takeoka, Yoshikatsu; Nagatani, Hiroyuki
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 02048987 | A2 | 19900219 | JP 1989-68824 | 19890320 |
| PRAI | JP 1988-131481 | A1 | 19880531 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 02048987 | ICM | B41M005-26 |
| | ICS | G11B007-24 |

AB A recording film of the erasable ***optical*** recording ***medium*** is a multi-mode in which a protrusion and a through ***hole*** are formed upon irradn. of a low- and high-powered laser beam, resp., and the recording layer contains micropowders made of .gtoreq.2 compds. selected from an oxide (e.g., In2O3), nitride, carbide, sulfide, silicide, and boride of a metal, a metal particle (e.g., Ir), and an org. compd.
ST erasable ***optical*** recording ***medium*** ; oxide metal ***optical*** recording ***medium*** ; nitride metal ***optical*** recording ***medium*** ; carbide metal ***optical*** recording ***medium*** ; sulfide metal ***optical*** recording ***medium*** ; silicide metal ***optical*** recording ***medium*** ; boride metal ***optical*** recording ***medium*** ; metal ***optical*** recording ***medium***
IT Borides
Carbides
Nitrides
Oxides, uses and miscellaneous
Silicides
Sulfides, uses and miscellaneous
RL: USES (Uses)
(multi-mode erasable optical recording material from)
IT Recording materials
(optical, erasable, multimodes, metal compds. and metals in)
IT 147-14-8 574-93-6, 29H,31H-Phthalocyanine 1307-96-6, Cobalt oxide (CoO), uses and miscellaneous 1308-38-9, Chromium oxide (Cr2O3), uses and miscellaneous 1309-37-1, Iron oxide (Fe2O3), uses and miscellaneous 1310-53-8, Germanium oxide (GeO2), uses and miscellaneous 1312-43-2, Indium oxide (In2O3) 1312-81-8, Lanthanum oxide (La2O3) 1313-27-5, Molybdenum oxide (MoO3), uses and miscellaneous 1313-96-8, ***Niobium*** oxide (Nb2O5) 1313-99-1, ***Nickel*** ***oxide*** ( ***NiO*** ), uses and miscellaneous 1314-23-4, Zirconium oxide (ZrO2), uses and miscellaneous 1314-36-9, Yttrium oxide (Y2O3), uses and miscellaneous 1314-61-0, Tantalum oxide (Ta2O5) 1314-62-1, Vanadium oxide (V2O5), uses and miscellaneous 1314-87-0, Lead sulfide (PbS) 1314-98-3, Zinc sulfide (ZnS), uses and miscellaneous 1317-35-7, Manganese oxide (Mn3O4) 1317-37-9, Iron sulfide (FeS) 1317-38-0, Copper oxide (CuO), uses and miscellaneous 1317-40-4, Copper sulfide (CuS) 1317-42-6, Cobalt sulfide (CoS) 1344-28-1, Aluminum oxide (Al2O3), uses and miscellaneous 1345-04-6, Antimony sulfide (Sb2S3) 1661-03-6 7440-31-5, Tin, uses and miscellaneous 7440-36-0, Antimony, uses and miscellaneous 7440-44-0, Carbon, uses and miscellaneous 7440-56-4, Germanium, uses and miscellaneous 7440-69-9, Bismuth, uses and miscellaneous 7440-74-6, Indium, uses and miscellaneous 9002-84-0 10043-11-5, Boron nitride (BN), uses and miscellaneous 12006-78-9, Cobalt boride (Co3B) 12006-79-0, Chromium boride (CrB) 12006-84-7,

Iron boride (FeB) 12007-02-2, Nickel boride (Ni3B) 12007-07-7, Tantalum boride (TaB) 12007-08-8, Titanium boride (TiB) 12007-23-7, Hafnium boride (HfB2) 12008-21-8 12011-97-1, Molybdenum carbide (MoC) 12018-06-3, Chromium sulfide (CrS) 12018-09-6, Chromium silicide (CrSi2) 12018-22-3, Chromium sulfide (Cr2S3) 12024-21-4, Gallium oxide (Ga2O3) 12030-24-9, Indium sulfide (In2S3) 12031-49-1, Lanthanum sulfide (La2S3) 12033-19-1, Molybdenum nitride (MoN) 12033-62-4, Tantalum nitride (TaN) 12033-89-5, Silicon nitride (Si3N4), uses and miscellaneous 12039-79-1, Tantalum silicide (TaSi2) 12039-83-7, Titanium silicide (TiSi2) 12039-87-1, Vanadium silicide (VSi2) 12039-88-2, Tungsten silicide (WSi2) 12039-90-6, Zirconium silicide (ZrSi2) 12041-50-8, Aluminum boride (AlB2) 12045-19-1, ***Niobium*** boride (NbB) 12045-27-1, Vanadium boride (VB) 12045-28-2, Zirconium boride (ZrB) 12045-95-3, Yttrium boride (YB4) 12055-23-1, Hafnium oxide (HfO2) 12065-36-0, Germanium nitride (Ge3N4) 12069-32-8, Boron carbide (B4C) 12069-85-1, Hafnium carbide (HfC) 12069-94-2, ***Niobium*** carbide (NbC) 12070-06-3, Tantalum carbide (TaC) 12070-10-9, Vanadium carbide (VC) 12070-12-1, Tungsten carbide (WC) 12070-14-3, Zirconium carbide (ZrC) 12071-34-0, Tungsten carbide (WC2) 12122-47-3, Molybdenum carbide (MoC2) 12136-78-6, Molybdenum silicide (MoSi2) 12137-08-5, Nickel sulfide (Ni2S) 12401-56-8, Hafnium silicide (HfSi2) 12542-39-1, Vanadium carbide (VC2) 16812-54-7, Nickel sulfide (NiS) 18820-29-6, Manganese sulfide (MnS) 21548-73-2, Silver sulfide (Ag2S) 22205-45-4, Copper sulfide (Cu2S) 24094-93-7, Chromium nitride (CrN) 24621-21-4, ***Niobium*** nitride (NbN) 24646-85-3, Vanadium nitride (VN) 25658-42-8, Zirconium nitride (ZrN) 25817-87-2, Hafnium nitride (HfN) 37365-69-8, Tantalum carbide (TaC2) 53321-50-9, Iron sulfide (Fe2S) 61356-66-9, Chromium sulfide (Cr2S) 129208-24-8, ***Niobium*** silicide (Nb5Si2)
RL: USES (Uses)
(multi-mode erasable optical recording material from)

L12 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:523961 CAPLUS
DN 113:123961
ED Entered STN: 29 Sep 1990
TI ***Optical*** recording ***medium***
IN Takeoka, Yoshikatsu; Nagatani, Hiroyuki
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 02048988 | A2 | 19900219 | JP 1989-68825 | 19890320 |
| PRAI | JP 1988-131482 | A1 | 19880531 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 02048988 | ICM | B41M005-26 |
| | ICS | G11B007-24 |

AB A recording film of the erasable ***optical*** recording ***medium*** is a multi-mode in which a protrusion and a through ***hole*** are formed upon irradn. of a low- or high-powered laser beam, resp., and the recording layer comprises an org. material-based 1st layer, a 2nd layer contg. micropowders made of .gtoreq.2 compds. selected from an oxide (e.g., In2O3), nitride, carbide, sulfide, and silicide, and boride of a metal, a metal particle (e.g., Ir), and an org. compd., and a dielec. 3rd layer.
ST erasable ***optical*** recording ***medium*** ; oxide metal ***optical*** recording ***medium*** ; nitride metal ***optical*** recording ***medium*** ; carbide metal ***optical*** recording ***medium*** ; sulfide metal ***optical*** recording ***medium*** ; silicide metal ***optical*** recording ***medium*** ; boride metal ***optical*** recording ***medium*** ; metal ***optical*** recording ***medium***

IT Borides
Carbides
Metals, uses and miscellaneous
Nitrides
Oxides, uses and miscellaneous
Silicides
Sulfides, uses and miscellaneous
RL: USES (Uses)
(multi-mode erasable optical recording material from)
IT Recording materials
(optical, erasable, multimodes metal compds. and metals in)
IT 147-14-8 574-93-6, 29H,31H-Phthalocyanine 1307-96-6, Cobalt oxide (CoO), uses and miscellaneous 1308-38-9, Chromium oxide (Cr2O3), uses and miscellaneous 1309-37-1, Iron oxide (Fe2O3), uses and miscellaneous 1310-53-8, Germanium oxide (GeO2), uses and miscellaneous 1312-43-2, Indium oxide (In2O3) 1312-81-8, Lanthanum oxide (La2O3) 1313-96-8, ***Niobium*** oxide (Nb2O5) 1313-99-1, ***Nickel*** ***oxide*** ( ***NiO*** ), uses and miscellaneous 1314-23-4, Zirconium oxide (ZrO2), uses and miscellaneous 1314-34-7, Vanadium oxide (V2O3) 1314-36-9, Yttrium oxide (Y2O3), uses and miscellaneous 1314-61-0, Tantalum oxide (Ta2O5) 1314-87-0, Lead sulfide (PbS) 1314-95-0, Tin sulfide (SnS) 1314-98-3, Zinc sulfide (ZnS), uses and miscellaneous 1315-01-1, Tin sulfide (SnS2) 1317-37-9, Iron sulfide (FeS) 1317-38-0, Copper oxide (CuO), uses and miscellaneous 1317-40-4, Copper sulfide (CuS) 1344-28-1, Aluminum oxide (Al2O3), uses and miscellaneous 1345-04-6, Antimony sulfide (Sb2S3) 7440-31-5, Tin, uses and miscellaneous 7440-36-0, Antimony, uses and miscellaneous 7440-44-0, Carbon, uses and miscellaneous 7440-56-4, Germanium, uses and miscellaneous 7440-69-9, Bismuth, uses and miscellaneous 7440-74-6, Indium, uses and miscellaneous 9002-84-0 9002-88-4 10043-11-5, Boron nitride (BN), uses and miscellaneous 12006-79-0, Chromium boride (CrB) 12007-07-7, Tantalum boride (TaB) 12007-08-8, Titanium boride (TiB) 12008-21-8 12011-97-1, Molybdenum carbide (MoC) 12018-06-3, Chromium sulfide (CrS) 12018-09-6, Chromium silicide (CrSi2) 12018-22-3, Chromium sulfide (Cr2S3) 12024-21-4, Gallium oxide (Ga2O3) 12025-32-0, Germanium sulfide (GeS) 12030-24-9, Indium sulfide (In2S3) 12031-49-1, Lanthanum sulfide (La2S3) 12033-19-1, Molybdenum nitride (MoN) 12033-62-4, Tantalum nitride (TaN) 12039-79-1, Tantalum silicide (TaSi2) 12039-83-7, Titanium silicide (TiSi2) 12039-87-1, Vanadium silicide (VSi2) 12039-88-2, Tungsten silicide (WSi2) 12039-90-6, Zirconium silicide (ZrSi2) 12041-50-8, Aluminum boride (AlB2) 12045-19-1, ***Niobium*** boride (NbB) 12045-27-1, Vanadium boride (VB) 12045-28-2, Zirconium boride (ZrB) 12045-95-3, Yttrium boride (YB4) 12055-23-1, Hafnium oxide (HfO2) 12058-38-7, Tungsten nitride (WN) 12065-36-0, Germanium nitride (Ge3N4) 12068-85-8, Iron sulfide (FeS2) 12069-32-8, Boron carbide (B4C) 12069-85-1, Hafnium carbide (HfC) 12069-94-2, ***Niobium*** carbide (NbC) 12070-06-3, Tantalum carbide (TaC) 12070-08-5, Titanium carbide (TiC) 12070-10-9, Vanadium carbide (VC) 12070-12-1, Tungsten carbide (WC) 12070-14-3, Zirconium carbide (ZrC) 12071-34-0, Tungsten carbide (WC2) 12136-78-6, Molybdenum silicide (MoSi2) 12137-08-5, Nickel sulfide (Ni2S) 12401-56-8, Hafnium silicide (HfSi2) 12542-39-1, Vanadium carbide (VC2) 13494-80-9, Tellurium, uses and miscellaneous 14376-21-7 16812-54-7, Nickel sulfide (NiS) 21548-73-2, Silver sulfide (Ag2S) 22205-45-4, Copper sulfide (Cu2S) 24094-93-7, Chromium nitride (CrN) 24304-00-5, Aluminum nitride (AlN) 24621-21-4, ***Niobium*** nitride (NbN) 24646-85-3, Vanadium nitride (VN) 25583-20-4, Titanium nitride (TiN) 25617-97-4, Gallium nitride (GaN) 25617-98-5, Indium nitride (InN) 25658-42-8, Zirconium nitride (ZrN) 25817-87-2, Hafnium nitride (HfN) 37365-69-8, Tantalum carbide (TaC2) 129208-24-8, ***Niobium*** silicide (Nb5Si2)
RL: USES (Uses)
(multi-mode erasable optical recording material from)

L12 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:644469 CAPLUS
DN 111:244469
ED Entered STN: 23 Dec 1989
TI ***Optical*** recording ***medium***
IN Yamada, Katsuyuki; Kojima, Shigeto; Ide, Yukio
PA Ricoh Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM B41M005-26
ICS G11B007-24
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 01196394 | A2 | 19890808 | JP 1988-19597 | 19880201 |
| PRAI | JP 1988-19597 | | 19880201 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 01196394 | ICM | B41M005-26 |
| | ICS | G11B007-24 |

AB The heat-sensitive layer of the title medium mainly consists of C and Ni. This medium provides high carrier-to noise ratio and long life. Thus, a layer with reflectance 46, absorbance 40, and transmittance 14% was formed on a substrate by plasma chem. vapor deposition of Ni acetylacetonate. This Ni/C at. ratio of this layer after Ar plasma treatment was .apprxeq.1.0. Reflectance, absorbance and transmittance were changed to <10%, >20% and >70% (in 370-800 nm range), resp., by heating to 400.degree.. Writing on the unheated layer with laser (Ar or semiconductor) beam produced clean rimless ***pits*** , by formation of ***NiO*** and escape of C.
ST optical recording nickel carbon layer
IT Recording materials
(optical, nickel-carbon layer of, prepn. of)
IT 3264-82-2, Nickel acetylacetonate 20998-57-6
RL: USES (Uses)
(in manuf. of optical recording materials, nickel-carbon heat-sensitive layer from)
IT 7440-02-0, Nickel, uses and miscellaneous
RL: USES (Uses)
(optical recording materials contg. carbon and, heat-mode recording using)
IT 7440-44-0, Carbon, uses and miscellaneous
RL: USES (Uses)
(optical recording materials contg. nickel and, heat-mode recording using)

L12 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:605527 CAPLUS
DN 111:205527
ED Entered STN: 25 Nov 1989
TI Photomask for use in manufacturing ***optical*** memory ***disks***
IN Ohta, Kenji; Takahashi, Akira; Inui, Tetsuya; Hirokane, Junji; Katayama, Hiroyuki
PA Sharp Corp., Japan
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G03F001-00
INCL 430005000
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4839251 | A | 19890613 | US 1987-36426 | 19870409 |
| PRAI | JP 1986-84448 | A | 19860411 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| US 4839251 | ICM | G03F001-00 |
| | INCL | 430005000 |
| US 4839251 | NCL | 430/005.000; 428/064.400; 430/321.000 |

AB A photomask for use in manufg. ***optical*** memory ***disks*** comprises a substrate having a disk shape and made of a transparent

material and a metal film which is made of Cr, Ti, Ta, Nb, or Ni and comprises a predetd. pattern of grooves extending spirally or concentrically to the center of the disk-shaped substrate in which the grooves include a thin portion of the metal film at the bottom of the grooves and a no. of microscopic ***pits*** in the form of minute indentations with predetd. spacing so as to be aligned along the grooves in which the indentations include no metal film at the bottom of the indentations. The light which passes through the metal film at the bottom of the grooves is weakened, the light which passes through the indentations loses substantially no power, and the light which is applied elsewhere on the metal film is cut off. The photomask is prepd. by depositing a metal film on a disk-shaped, transparent substrate, impinging a 1st laser beam at places where the grooves are to be made, and impinging a 2nd laser beam at places where the ***pits*** are to be formed. The 1st laser beam is weaker in power than the 2nd laser beam.

ST photomask groove indentation ***optical*** ***disk*** ; metal photomask groove indentation

IT Photomasks
(with metal layer at bottom of glues and metal-free ***pits*** for ***optical*** memory ***disk*** manuf.)

IT Recording apparatus
( ***optical*** ***disks*** , photomasks for manuf. of)

IT 7440-02-0, Nickel, uses and miscellaneous 7440-03-1, ***Niobium*** , uses and miscellaneous 7440-25-7, Tantalum, uses and miscellaneous 7440-32-6, Titanium, uses and miscellaneous 7440-47-3, Chromium, uses and miscellaneous
RL: USES (Uses)
(photomasks contg. thin layers of, for manuf. of ***optical*** memory ***disks*** )

L12 ANSWER 9 OF 10 CAPLUS 

AN 1989:66978 CAPLUS
DN 110:66978
ED Entered STN: 17 Feb 1989
TI ***Optical*** memory ***medium*** with metal or alloy laminate recording film
IN Toda, Shigeo
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-24
ICS B41M005-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 63103452 | A2 | 19880509 | JP 1986-249066 | 19861020 |
| PRAI | JP 1986-249066 | | 19861020 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| JP 63103452 | ICM | G11B007-24 |
| | ICS | B41M005-26 |

AB The title ***optical*** memory ***medium*** has a laminated thin film comprising a metal, alloy, and/or metal compd., at least one of which is colored. An information signal is recorded by distinguishing an unirradiated area with an irradiated area which is produced by heating by laser irradn. to induce diffusion between layers. This ***optical*** memory ***medium*** is useful for formation of ***pits*** , bubbles, or amorphous recording layers. This memory medium provides a lower prodn. cost, improved sensitivity, improved storage stability, and simple fabrication. A Au film (1000 .ANG. thickness) and a Ag film (2000 .ANG. thickness) were formed on a PMMA substrate by sputtering to give a laminate. The laminate was hard-coated with a photosensitive acrylate to give an ***optical*** memory ***medium*** . The laser beam was irradiated from the substrate side, and the color of irradiated part was changed from gold to white.

ST optical memory material diffusion laser

IT Recording materials

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        (optical, laser-sensitive laminates, using diffusion for information
        recording)
IT   Memory devices
        (optical, using laser-induced diffusion for information recording)
IT   1313-99-1,   ***Nickel***     ***oxide***    (  ***NiO***  ), uses and
     miscellaneous   7429-90-5, Aluminum, uses and miscellaneous   7440-22-4,
     Silver, uses and miscellaneous   7440-31-5, Tin, uses and miscellaneous
     7440-50-8, Copper, uses and miscellaneous   7440-57-5, Gold, uses and
     miscellaneous   7440-66-6, Zinc, uses and miscellaneous   11149-64-7,
     Nickel-phosphorus (alloy)   12597-71-6, Brass, uses and miscellaneous
     118669-33-3, Copper oxide (CuO0.5-1)
     RL: USES (Uses)
        (laminate recording layer contg., for   ***optical***   memory
          ***medium***  )

L12  ANSWER 10 OF 10  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1988:13918  CAPLUS
DN   108:13918
ED   Entered STN:  09 Jan 1988
TI     ***Laser***     ***pit***  -forming recording   ***medium***
IN   Ito, Masaki; Morimoto, Akio
PA   NEC Corp., Japan
SO   Jpn. Kokai Tokkyo Koho, 3 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  G11B007-24
     ICS  B41M005-26
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.            KIND   DATE         APPLICATION NO.         DATE
     ---------------       ----   --------     --------------------    --------
PI   JP 62137739            A2    19870620     JP 1985-277242          19851209
     JP 04011927            B4    19920303
PRAI JP 1985-277242               19851209
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 JP 62137739     ICM    G11B007-24
                 ICS    B41M005-26
AB   The recording medium is prepd. by forming on a substrate a recording layer
     composed of mainly   ***NiO***   and Sn and a MgO surface layer on
     .gtoreq.1 side of the recording layer.  It shows improved sensitivity to a
     semiconductor laser and resistance to weather changes.
ST   laser recording tin   ***nickel***     ***oxide***   ; magnesium oxide
       ***laser***   recording   ***medium***
IT   Recording materials
        (laser   ***pit***  -forming, contg. tin and   ***nickel***
          ***oxide***   recording layer and magnesium oxide surface layer for
        improved sensitivity and weather resistance)
IT   7440-31-5, Tin, uses and miscellaneous
     RL: USES (Uses)
        (  ***laser***     ***pit***  -forming recording   ***medium***   with
        recording layer contg., for improved sensitivity)
IT   1313-99-1,   ***Nickel***     ***oxide***    (  ***NiO***  ), uses and
     miscellaneous
     RL: USES (Uses)
        (  ***laser***     ***pit***  -forming recording   ***medium***   with
        recording layer contg., for improved sensitivity and resistance to
        weather changes)
IT   1309-48-4, Magnesium oxide, uses and miscellaneous
     RL: USES (Uses)
        (  ***laser***     ***pit***  -forming recording   ***medium***   with
        surface protective layer contg., for improved resistance to weather
        changes)


=> s l8 and (remov?)
       1175460 REMOV?
L13          6 L8 AND (REMOV?)
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=> d all 1-6

L13  ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2004:969896  CAPLUS
DN   142:228803
ED   Entered STN:  15 Nov 2004
TI     ***Optical***   recording   ***medium***   for   ***optical***   record
     and reproduction equipment by using near field
IN   Kim, Jin Hong
PA   Lg Electronics Inc., S. Korea
SO   Repub. Korean Kongkae Taeho Kongbo, No pp. given
     CODEN: KRXXA7
DT   Patent
LA   Korean
IC   ICM  G11B011-24
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   KR 2002078100        A     20021018    KR 2001-17965          20010404
PRAI KR 2001-17965              20010404
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------
 KR 2002078100   ICM    G11B011-24
AB   An optical device for optical record and reprodn. equipment by using a
     near field is provided to   ***remove***   a pollutant attached to the
     lower surface of a focusing lens by using an optical catalyst, thereby
     preventing the efficiency of the lens from reducing.  An optical device
     for optical record and reprodn. equipment by using a near field includes a
     light source generating light, a condensing lens refracting the light
     generated from the light source for collecting to the lower part, a
     focusing lens transmitting the refracted light to a surface of a record
       ***medium***   for generating an   ***optical***   near field, a layered
     crystal structure film made by coating process one of MoS, CdS, SnO2, ZnO,
     WO3 or Nb compn. to absorb light of a visible ray area, thereby resolving
     a pollutant.
ST   optical device optical record reprodn equipment using near field
IT     ***Optical***     ***disks***
     Optical recording materials
        (near field;   ***optical***   device for   ***optical***   record and
        reprodn. equipment by using near field)
IT   Crystal structure
        (optical device for optical record and reprodn. equipment by using near
        field)
IT   1314-13-2, Zinc oxide, uses   1314-35-8, Tungsten oxide, uses   1332-29-2,
     Tin oxide   7440-03-1,   ***Niobium***   , uses   12612-50-9, Molybdenum
     sulfide
     RL: DEV (Device component use); USES (Uses)
        (optical device for optical record and reprodn. equipment by using near
        field)

L13  ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2003:586581  CAPLUS
DN   139:141027
ED   Entered STN:  31 Jul 2003
TI   Method for manufacturing   ***optical***     ***disk***   stamper having
     oxide surface layer
IN   Masuhara, Makoto; Toyokawa, Mitsuru; Nakano, Atsushi
PA   Sony Corp., Japan
SO   Jpn. Kokai Tokkyo Koho, 11 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  G11B007-26
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 2003217189        A2    20030731    JP 2002-9060           20020117
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PRAI JP 2002-9060 20020117
CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
| --- | --- | --- |
| JP 2003217189 | ICM | G11B007-26 |

AB The title method includes the steps of: fabricating a mother stamper having indent pattern on the surface; forming oxide layer on the surface by O2 plasma treatment; forming a stamper over the mother stamper; and ***removing*** the stamper from the mother stamper. The method provides stampers of the improved surface smoothness.
ST manufg stamper ***optical*** ***disk***
IT Anodization
(plasma; method for manufg. stamper for ***optical*** ***disk*** )
IT ***Optical*** ***disks***
(stamper; method for manufg. stamper for ***optical*** ***disk*** )
IT 7782-44-7, Oxygen, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(plasma treatment of mother stamper)
IT 7440-02-0, Nickel, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(surface layer of mother stamper)
IT 1313-99-1P, ***Nickel*** ***oxide*** , preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(surface layer of mother stamper)

L13 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:152472 CAPLUS
DN 138:195956
ED Entered STN: 28 Feb 2003
TI Manufacture of master stamper for ***optical*** ***disk*** fabrication
IN Furuya, Noboru; Miyao, Nobuyuki
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B007-26
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
| --- | --- | --- | --- | --- | --- |
| PI | JP 2003059122 | A2 | 20030228 | JP 2001-247054 | 20010816 |
| PRAI | JP 2001-247054 | | 20010816 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
| --- | --- | --- |
| JP 2003059122 | ICM | G11B007-26 |

AB The title master stamper fabrication comprises an ozone water process to ***remove*** and wash resist residues under ultrasonic vibration, and an oxidn. process to form an oxide layer as a sepn. layer. The master stamper fabrication may include a washing process with an alk. water.
ST ***optical*** ***disk*** master stamper fabrication ozone water ultrasonic vibration
IT ***Optical*** ***disks***
(manuf. of master stamper for ***optical*** ***disk*** fabrication)
IT Vibration
(ultrasonic; manuf. of master stamper for ***optical*** ***disk*** fabrication)
IT 1336-21-6, Ammonia water 10028-15-6, Ozone, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(manuf. of master stamper for ***optical*** ***disk*** fabrication)
IT 1313-99-1P, ***Nickel*** ***oxide*** , preparation
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material

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     use); PREP (Preparation); USES (Uses)
        (sepn. layer; manuf. of master stamper for   ***optical***
          ***disk***   fabrication)
IT   7440-02-0, Nickel, processes
     RL: PEP (Physical, engineering or chemical process); PYP (Physical
     process); TEM (Technical or engineered material use); PROC (Process); USES
     (Uses)
        (stamper; manuf. of master stamper for   ***optical***     ***disk***
        fabrication)

L13  ANSWER 4 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1996:336542  CAPLUS
DN   124:345369
ED   Entered STN:  11 Jun 1996
TI   Pulsed radiation and reactive gas stream for cleaning of critical surfaces
     in manufacture of compact disks
IN   Elliott, David J.; Hollman, Richard F.; Yans, Francis M.; Singer, Daniel
     K.
PA   Uvtech Systems, Inc., USA
SO   PCT Int. Appl., 26 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  B08B003-08
     ICS  B08B003-10; B08B003-12; B08B007-00; B08B007-02; B44C001-22;
          C03C015-00; C03C025-06
CC   38-1 (Plastics Fabrication and Uses)
     Section cross-reference(s): 56
FAN.CNT 4
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   WO 9606693           A1    19960307    WO 1995-US10929        19950829
         W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,
            GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD,
            MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,
            TM, TT
        RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT,
            LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE,
            SN, TD, TG
     AU 9533741           A1    19960322    AU 1995-33741          19950829
     US 5669979           A     19970923    US 1996-697018         19960816
PRAI US 1994-298023       A     19940829
     US 1995-391517       A     19950221
     US 1993-118806       B2    19930908
     WO 1995-US10929      W     19950829
     US 1995-532992       B1    19950925
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 WO 9606693      ICM    B08B003-08
                 ICS    B08B003-10; B08B003-12; B08B007-00; B08B007-02;
                        B44C001-22; C03C015-00; C03C025-06
 WO 9606693      ECLA   B08B007/00S2; B23K026/06F; B23K026/073B; B23K026/073H;
                        B23K026/12; B23K026/14; G02F001/1333; G03F007/42;
                        G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/48C4H; H05K003/26
 AU 9533741      ECLA   B08B007/00S2; B23K026/06F; B23K026/073B; B23K026/073H;
                        B23K026/12; B23K026/14; G02F001/1333; G03F007/42;
                        G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/48C4H; H05K003/26
 US 5669979      NCL    134/001.000; 134/001.100; 134/001.200; 134/001.300;
                        257/E21.226; 257/E21.227; 257/E21.256
                 ECLA   B08B007/00S2; B23K026/073B; B23K026/073H; B23K026/12;
                        G03F007/42; G11B007/26; H01L021/306N2; H01L021/306N2B;
                        H01L021/311C2B
AB   In the title process, contaminants such as Ag,   ***NiO***   , photoresist
     residues, and polycarbonate residues are   ***removed***   from crit.
     surfaces of compact disk masters, glass plates, Ni stampers, etc., by
     scanning with pulsed radiation (e.g., from an excimer laser) in the
     presence of a gas stream contg. a reactive component such as O, H, a
     halogen compd., etc.  The process converts contaminants to gaseous
     products.
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ST polycarbonate compact disk manuf cleaning; nickel stamper compact disk manuf cleaner; photoresist ***removal*** cleaner compact disk; ***laser*** radiation cleaning compact ***disk*** manuf; oxygen ***laser*** radiation cleaning compact ***disk*** ; hydrogen ***laser*** cleaning compact ***disk*** manuf; excimer ***laser*** cleaning compact ***disk***

IT Laser radiation
Ultraviolet radiation
(cleaning of crit. surfaces in compact disk manuf. by reactive gas stream in presence of)

IT Cleaning
(radiation and reactive gas stream for cleaning of crit. surfaces in manuf. of compact disks)

IT Polycarbonates, processes
RL: MSC (Miscellaneous); PEP (Physical, engineering or chemical process); PROC (Process)
( ***removal*** from surfaces by cleaning process useful in manuf. of compact disks)

IT Recording apparatus
(compact disks, radiation and reactive gas stream for cleaning of crit. surfaces in manuf. of)

IT Memory devices
( ***optical*** ***disks*** , read-only, radiation and reactive gas stream for cleaning of crit. surfaces in manuf. of)

IT Resists
(photo-, ***removal*** from surfaces by cleaning process useful in manuf. of compact disks)

IT Acoustic devices
(records, compact, radiation and reactive gas stream for cleaning of crit. surfaces in manuf. of)

IT 1333-74-0, Hydrogen, uses 7782-44-7, Oxygen, uses 10028-15-6, Ozone, uses
RL: MSC (Miscellaneous); NUU (Other use, unclassified); USES (Uses)
(cleaning of crit. surfaces in manuf. of compact disks by irradn. in presence of gas contg.)

IT 1313-99-1, ***Nickel*** ***oxide*** , processes 7440-02-0, Nickel, processes 7440-22-4, Silver, processes
RL: MSC (Miscellaneous); PEP (Physical, engineering or chemical process); PROC (Process)
( ***removal*** from surfaces by cleaning process useful in manuf. of compact disks)

L13 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:220055 CAPLUS

DN 116:220055

ED Entered STN: 31 May 1992

TI Laser-enhanced sputter or vapor deposition of thin metallic films on ceramic substrates

AU Pedraza, A. J.; Godbole, M. J.

CS Dep. Mater. Sci. Eng., Univ. Tennessee, Knoxville, TN, 37996-2200, USA

SO Metallurgical Transactions A: Physical Metallurgy and Materials Science (1992), 23A(4), 1095-103
CODEN: MTTABN; ISSN: 0360-2133

DT Journal

LA English

CC 57-2 (Ceramics)
Section cross-reference(s): 56

AB Laser-assisted sputter deposition was used to deposit thin metallic films onto ceramic substrates. This process enables the building of a film of arbitrary thickness by sequential deposition of 5- to 150-nm-thick layers alternating with laser melting. Highly adherent films of Cu on sapphire and on quartz were obtained. Pulsed-laser treatment also enhances the adhesion of Ni films to sapphire substrates. This crit. step in the process is the laser irradn. following each of the initial depositions. In these early stages, an interfacial reaction between film and substrate takes place during laser irradiations. An interfacial compd. forms whose nature was studied by TEM. The morphol. features of the film, as well as the amt. of film ***removed*** during these 1st irradiations, were analyzed as a function of laser energy d. by SEM and by energy dispersive x-ray spectroscopy. The results were correlated with computer simulations of the thermal response of the 2- ***media*** system to ***laser*** heating. The role of the interfacial thermal cond. during laser

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     processing is analyzed.  The state of the substrate, e.g., annealed or
     as-polished, influences the morphol. of the irradiated film.  This effect
     is related to an enhancement of interfacial thermal cond.
ST   sputtering metal film ceramic laser enhancement
IT   Ceramic materials and wares
        (coating of, with thin metal films by laser-assisted sputter
        deposition)
IT   Sputtering
        (laser-assisted, deposition of thin metal films on ceramics by)
IT   7440-03-1,   ***Niobium***  , uses   7440-50-8, Copper, uses
     RL: USES (Uses)
        (films, on ceramics, laser-assisted sputter deposition of thin)

L13  ANSWER 6 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   1988:483692  CAPLUS
DN   109:83692
ED   Entered STN:  02 Sep 1988
TI     ***Optical***   recording   ***medium***
IN   Ito, Masaki; Nakagawa, Katsuji; Morimoto, Akio
PA   NEC Corp., Japan
SO   Jpn. Kokai Tokkyo Koho, 3 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  B41M005-26
     ICS  G11B007-24
CC   74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   JP 63013786          A2    19880121    JP 1986-158247         19860704
     JP 06067670          B4    19940831
PRAI JP 1986-158247             19860704
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------------
 JP 63013786     ICM    B41M005-26
                 ICS    G11B007-24
 JP 63013786     ECLA   G11B007/243; G11B007/257
AB   The title   ***optical***   recording   ***medium***   is composed of a
     substrate bearing a recording layer which comprises an underlayer contg. a
     mixt. of metal and metal oxide and an overlayer contg. Te, Se and N, where
     information is recorded by selective   ***removal***   of the recording
     layer with laser beam irradn.  The   ***medium***   gives high-quality
       ***optical***   image, and has high preservation stability.  Thus, a
     polycarbonate disk was coated with a 200 .ANG. thick overlayer comprising
     Te, Se, and N (mol. ratio, 90:4:6 ) to form an   ***optical***
       ***disk***  .  The disk was annealed at 95.degree. for 1 h to give a
     surface reflectance of 31% .  Recording and reading were made with a 830
     nm semiconductor laser at irradn. powers of 7.0 mW (for recording) and 0.7
     mW (for reading) to give a carrier-to-noise ratio of 50 dB.  The disk
     showed high fastness against preservation under high temp. and humidity.
ST   metal oxide optical recording layer; tellurium selenium nitrogen recording
     layer; semiconductor laser optical recording
IT   Recording materials
        (optical, laser-sensitive, with metal-metal oxide subbing layer and
        tellurium-selenium-nitrogen recording layer, with good preservation
        stability)
IT   11099-02-8,   ***Nickel***    ***oxide***
     RL: USES (Uses)
        (optical recording material subbing layer contg.)
IT   7727-37-9, Nitrogen, uses and miscellaneous
     RL: USES (Uses)
        (tellurium-selenium contg., optical recording material using)


=> s 18 and (brown)
        133331 BROWN
           395 BROWNS
        133593 BROWN
                 (BROWN OR BROWNS)
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L14 2 L8 AND (BROWN)

=> d all 1-2

L14 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:396165 CAPLUS
DN 138:324175
ED Entered STN: 28 May 2002
TI Neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogues of medenbachite
AU Krause, Werner; Bernhardt, Heinz-Jurgen; McCammon, Catherine; Effenberger, Herta
CS Henriette-Lott-Weg 8, Hurth, D-50354, Germany
SO American Mineralogist (2002), 87(5-6), 726-738
CODEN: AMMIAY; ISSN: 0003-004X
PB Mineralogical Society of America
DT Journal
LA English
CC 53-1 (Mineralogical and Geological Chemistry)
AB Neustadtelite and cobaltneustadtelite, two new minerals related to medenbachite, were found on samples from the dumps of the Guldener Falk mine near Schneeberg-Neustadtel, Saxony, Germany. The general appearance of the two new minerals is very similar: small tabular crystals up to 0.2 mm in diam., transparent to translucent, with a ***brown*** color and a light ***brown*** streak; the luster is adamantine. Both minerals are optically biaxial neg., 2V = 65(5).degree., nx = 2.02(2), ny = 2.09 (calc.), nz = 2.12(2); pleochroism is strong with X = ***brown*** to opaque, Y = yellow, Z = pale yellow. Mohs' hardness is 4.5. The cleavage parallel to {001} is good. The chem. compns. were derived by means of electron-microprobe analyses. Av. contents for neustadtelite/cobaltneustadtelite are (in wt%): Bi2O3 52.58/51.54, PbO 0.08/0.08, CaO 0.15/0.32, Fe2O3 13.92/10.90, Al2O3 0.29/0.07, CoO 3.35/5.47, ***NiO*** 0.34/1.61, ZnO 0.09/0.39, CuO 0.07/0.00, As2O5 26.82/25.91, P2O5 0.23/0.43, H2O (calc.) 2.56/3.01, total 100.48/99.73. Mossbauer spectra of cobaltneustadtelite and medenbachite confirmed that all of the iron is trivalent. Based on 12 O atoms, the empirical formulas for the neustadtelite and cobaltneustadtelite type materials are (Bi1.94Ca0.02).SIGMA.1.96Fe1.00(Fe0.50Co 0.38Ni0.04Al0.05Zn0.01 Cu0.01).SIGMA.0.99[(OH)2.44O1.40].SIGMA.3.84[( AsO4)2.01(PO4)0.03].SIGMA.2.04 and (Bi1.91Ca0.05).SIGMA.1.96Fe1.02(Co0.63F e 0.16Ni0.19 Zn0.04Al0.01).SIGMA.1.03[(OH)2.88O1.12] .SIGMA.4.00[(AsO4)1.95(PO4)0.05] .SIGMA.2.00, resp. As derived from chem. analyses and crystal-structure investigations, the ideal end-member compns. are Bi2Fe3+Fe3+O2(OH)2(AsO4)2 (neustadtelite) and Bi2Fe3+Co2+O(OH)3(AsO4)2 (cobaltneustadtelite). Extensive solid soln. is obsd. between these two minerals. Neustadtelite and cobaltneustadtelite crystallize in space group P.hivin.1; the cell parameters refined from powder data are a = 4.556(1)/9.156(1), b = 6.153(2)/6.148(1), c = 8.984(2)/9.338(1) .ANG., .alpha. = 95.43(2)/83.24(1), .beta. = 99.22(2)/70.56(1), .gamma. = 92.95(3)/86.91(1).degree., V = 246.9/492.2 .ANG.3, Z = 1/2, d. (calc.) 5.81/5.81 g/cm3. Structure investigations were performed using single-crystal X-ray data. In both minerals edge-sharing alternating Fe3+.vphi.6 and (Fe3+,Co2+).vphi.6/ (Co2+,Fe3+).vphi.6 octahedra (.vphi. = O,OH) form chains parallel to [010] that are corner-linked by arsenate tetrahedra to layers parallel to (001). The Bi atoms are linked by O atoms to form columns parallel to [100]; these are sandwiched between layers of compn. [6]M2(OH)2(AsO4)2 (M = Fe3+,Co2+). In neustadtelite the Bi atoms are site disordered; in cobaltneustadtelite half of the Bi atoms are ordered and half are on a split position. The partial ordering is induced by the presence of three OH groups, as compared to two in neustadtelite. A structural reinvestigation of medenbachite, Bi2Fe3+ (Cu2+,Fe3+)(O,OH)2(OH)2(AsO4)2, proved isotopy with cobaltneustadtelite; the new cell parameters for medenbachite (refined from X-ray powder data) are: a = 9.162(2), b = 6.178(1), c = 9.341(2) .ANG., .alpha. = 83.50(2), .beta. = 71.04(2), .gamma. 85.15(2).degree., V = 496 .ANG.3, Z = 2.
ST neustadtelite cobaltneustadtelite iron cobalt analog medenbachite
IT New minerals
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(cobaltneustadtelite; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+-

and Co2+-analogs of medenbachite)

IT Hardness (mechanical)
(holotype, compn. and diagnostic properties of; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

IT Order
(of Co atoms; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

IT Mineral crystal structure
(of neustadtelite and cobaltneustadtelite; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

IT 512196-47-3, Cobaltneustadtelite
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(holotype, compn. and diagnostic properties of; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

IT 3352-57-6, Hydroxyl, occurrence 17778-80-2, Oxygen, atomic, occurrence
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(in neustadtelite and cobaltneustadtelite; physicochem. properties, crystal structure, and optical parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

IT 176704-14-6, ***Medenbachite*** 512193-62-3, Neustadtelite
RL: GOC (Geological or astronomical occurrence); PRP (Properties); OCCU (Occurrence)
(physicochem. properties, crystal structure, and ***optical*** parameters of neustadtelite and cobaltneustadtelite, the Fe3+- and Co2+-analogs of medenbachite)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(6) Effenberger, H; Canadian Mineralogist 1994, V32, P365 CAPLUS
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(19) Krause, W; Neues Jahrbuch fur Mineralogie Monatshefte 1999, P505 CAPLUS
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L14 ANSWER 2 OF 2 CAPLUS 

AN 1989:183061 CAPLUS

DN 110:183061

ED Entered STN: 12 May 1989

TI ***Laser*** recording ***medium*** containing metal oxide film and oxygen-providing oxide film

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IN   Iida, Atsuko
PA   Toshiba Corp., Japan
SO   Jpn. Kokai Tokkyo Koho, 3 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  B41M005-26
     ICS  G11B007-24
CC   74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
FAN.CNT 1
     PATENT NO.             KIND   DATE          APPLICATION NO.         DATE
     ---------------        ----   --------      --------------------    --------
PI   JP 63158292             A2    19880701      JP 1986-305188          19861223
PRAI JP 1986-305188                19861223
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------  -----  ----------------------------------------------------
 JP 63158292     ICM    B41M005-26
                 ICS    G11B007-24
AB   The recording medium contains a metal oxide film of a metal in its low
     oxidn. state that changes its optical d. on irradn. with a laser beam and
     a transparent O-providing oxide film.  A polycarbonate film may be coated
     consecutively with a dark   ***brown***   colored Ni oxide film in which
     Ni is in a low oxidn. state, a colorless transparent BaO film deposited in
     an atm. of Ar and O2, a colorless transparent BaO film deposited in an
     atm. of Ar, and a polycarbonate covering film to give the recording
     medium.  The dark   ***brown***   colored Ni oxide film shows 10%
     transmittance to a laser beam having the wavelength 780 nm.  After
     recording with a 780 nm laser beam the irradiated area shows 78%
     transmittance.
ST   laser recording metal oxide film
IT   Oxides, uses and miscellaneous
     RL: USES (Uses)
        (films, for laser recording materials)
IT   Recording materials
        (optical, metal oxide films for)
IT   1304-28-5, Barium oxide, uses and miscellaneous   11099-02-8,
       ***Nickel***     ***oxide***
     RL: USES (Uses)
        (film, for laser recording material)


=> d his

     (FILE 'HOME' ENTERED AT 12:25:26 ON 13 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 12:25:34 ON 13 SEP 2005
L1            5 S NI2O3/MAC
L2           13 S NI2O3
L3            3 S NI2O5

     FILE 'CAPLUS' ENTERED AT 12:26:07 ON 13 SEP 2005
L4         1121 S L2 OR L3
L5            1 S ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
L6           72 S ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
L7          457 S ((OPTICAL OR LASER OR INFORMATION)(5A)(MED? OR DISK OR DISC))
L8          486 S L6 OR L7
L9           27 S L8 AND (BLACK OR DARK OR OXIDIZ6 OR GAS OR EVOLUTION OR BLACK
L10          28 S L8 AND (BLACK OR DARK? OR OXIDIZ6 OR GAS OR EVOLUTION OR BLAC
L11           1 S L10 NOT L9
L12          10 S L8 AND (HOLE OR ABLAT6 OR OPEN? OR PIT)
L13           6 S L8 AND (REMOV?)
L14           2 S L8 AND (BROWN)

=> log y
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                    235.71     250.15

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)         SINCE FILE      TOTAL
                                                        ENTRY    SESSION
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CA SUBSCRIBER PRICE -34.31 -34.31

STN INTERNATIONAL LOGOFF AT 12:33:03 ON 13 SEP 2005